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TRANSPORTATION RESEARCH CENTER

Indiana University
Bloomington, Indiana 47403-1599

ON-SITE AIR BAG INVESTIGATION

CASE NO. - 96-16
FLEET - PRIVATE VEHICLE
LOCATION -
ACCIDENT DATE -

Submitted By:

Research Scientist
and

Associate Scientist

1996

Revised Submission:

2000

Contract Number:

Prepared for:

U.S. Department of Transportation
National Highway Traffic Safety Administration
National Center for Statistics and Analysis
Washington, D.C. 20590-0003

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The crash investigation process is an inexact science which requires that physical evidence such as skid marks, vehicular damage measurements, and occupant contact points be coupled with the investigator's expert knowledge and experience of vehicle dynamics and occupant kinematics in order to determine the pre-crash, crash, and post-crash movements of involved vehicles and occupants.

Because each crash is a unique sequence of events, generalized conclusions cannot be made concerning the crashworthiness performance of the involved vehicle(s) or their safety systems.

Technical Report Documentation Page

1. *Report No.* TRC/IU Case No. 96-16	2. *Government Accession No.*	3. *Recipient's Catalog No.*
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7. *Author(s)*		8. *Performing Organization Report No.* Task #s 0055 & 0228
9. *Performing Organization Name and Address* Transportation Research Center Indiana University 222 West Second Street Bloomington, Indiana 47403-1501		10. *Work Unit No. (TRAIS)* 11. *Contract or Grant No.*
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15. *Supplementary Notes*
On-site air bag deployment investigation involving a 1995 Isuzu Rodeo, 4x4, 4-door sport utility, with manual belts and dual front air bags

16. *Abstract*

This report covers an on-site investigation of an air bag deployment crash that involved a 1995 Isuzu Rodeo and a 1986 GMC C-1500, 4x2, regular cab pickup. This crash is of special interest because the Rodeo (case vehicle) is a sport utility and both the case vehicle's driver and front right passenger were fatally injured despite the deployment of the case vehicle's dual front air bags. The case vehicle (Rodeo) was entering a left-hand curve, traveling east-northeast in the eastbound lane of a two-lane, undivided, state road. The C-1500 pickup (vehicle #2) was negotiating a right-hand curve, traveling southwest on the same, two-lane, undivided, state road. The crash occurred in the eastbound lane of the roadway. The front left (half) of the case vehicle impacted the front left (half) of vehicle #2 causing the case vehicle's driver and front right passenger supplemental restraint systems (air bags) to deploy. The posture and seat track location of the case vehicle's driver (39 year-old male) is unknown. The case vehicle was not equipped with a tilt steering wheel. He was not wearing his available, active, three-point, lap and shoulder belt and sustained, according to his autopsy, multiple thoracic and abdominal injuries from the steering assembly, including: bilateral rib fractures, a transmural laceration and contusions to the left lateral ventricle, lacerated pericardium, bilateral lung lacerations and contusions with bilateral hemothorax, multiple liver lacerations, a lacerated spleen, and hemorrhagic injuries to the left adrenal gland and upper quadrant of mesentery. He sustained an atlanto-occipital subluxation, most likely from the roof. In addition there were abrasions to his left cheek and anterior neck from his air bag, and multiple soft tissue injuries to his chest and extremities. The posture of the front right passenger (49 year-old female) in the Rodeo is also unknown. According to the vehicle inspection, her seat track was located in its rearmost position, and she was also restrained by her available, active, three-point, lap and shoulder belt. She sustained, according to her autopsy, a lacerated basilar artery--at the level of the medulla oblongata, and a subarachnoid hemorrhage resulting from her atlanto-occipital subluxation. She also sustained seat belt contusions across the midline of her chest and suprapubic area of her abdomen, and to her right shoulder and left hip. In addition, she sustained a small right groin abrasion and contusions and lacerations to her left thigh.

17. *Key Words* Air Bag Deployment Motor Vehicle Traffic Crash Injury Severity		18. *Distribution Statement* General Public	
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TRC/IU ON-SITE AIR BAG INVESTIGATION

TRC/IU CASE NO. 96-16

FLEET - PRIVATE VEHICLE
LOCATION -

SUMMARY

This report concerns a motor vehicle crash involving an air bag equipped 1995 Isuzu Rodeo, 4x4, sport utility and a 1986 GMC C-1500, 4x2, regular cab pickup occurring in 1996 at 9:37 p.m., in a rural area on a state road. This crash is of special interest because the Rodeo (case vehicle) is a sport utility and both the Rodeo's driver and front right passenger were fatally injured despite the deployment of the Rodeo's dual front air bags.

The Rodeo was entering a left-hand curve, traveling east-northeast in the eastbound lane of a two-lane, undivided, state road when it impacted the C-1500 pickup which was negotiating a right-hand curve, traveling southwest in the same, two-lane, undivided, state road. The crash occurred in the eastbound lane of the roadway. The Rodeo was knocked approximately 7 meters (23 feet) southwestward (backward) and rotated approximately 120 degrees counterclockwise after impact. The Rodeo came to rest on the south roadside heading north-northwest. The C-1500 pickup rotated counterclockwise after impact leaving gouges in the eastbound lane. The pickup came to rest approximately 19 meters (62 feet) west of impact, rotated approximately 70 degrees counterclockwise, and came to rest straddling, perpendicularly, the westbound lane heading south.

The front left (half) of the Rodeo impacted the front left (half) of the C-1500 pickup. CDCs were determined to be: **11-FYEW-5** for the Rodeo and **12-FYEW-4** for the pickup. The WinSMASH reconstruction program, missing vehicle algorithm, was used to estimate the change in velocity (i.e., Delta V) on the highest severity impact to the Rodeo. The Total, Longitudinal, and Lateral Delta Vs are respectively: **42.6 km.p.h. (26.5 m.p.h.), -40.0 km.p.h. (-24.9 m.p.h.), and +14.6 km.p.h. (+9.1 m.p.h)**.

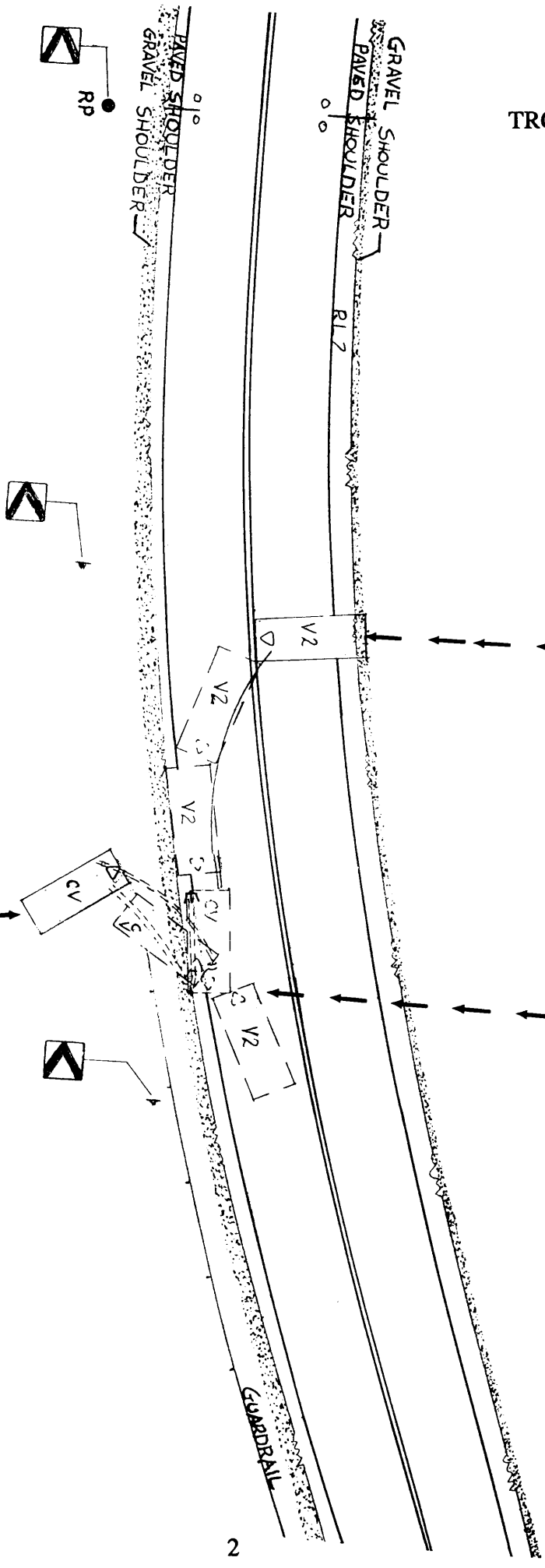
The 1995 Isuzu Rodeo was equipped with both driver and front right passenger supplemental restraint systems (air bags) which deployed as a result of the frontal impact. The posture and seat track location of the Rodeo's driver (39-year-old male) are unknown. The Rodeo was not equipped with a tilt steering wheel. He was not wearing his available, active, three-point, lap and shoulder belt and sustained, according to his autopsy, multiple thoracic and abdominal injuries from the steering assembly, including: bilateral rib fractures, a transmural laceration and contusions to the left lateral ventricle, lacerated pericardium, bilateral lung lacerations and contusions with bilateral hemothorax, multiple liver lacerations, a lacerated spleen, and hemorrhagic injuries to the left adrenal gland and upper quadrant of mesentery. He sustained an atlanto-occipital subluxation, most likely from the roof. In addition, there were abrasions to his left cheek and anterior neck from his air bag and multiple soft tissue injuries to his chest and extremities. The posture of the front right passenger (49-year-old female) in the Rodeo is also unknown. According to the vehicle inspection, her seat track was located in its rearmost position, and she was restrained by her available, active, three-point, lap and shoulder belt. She sustained, according to her autopsy, a lacerated basilar artery--at the level of the medulla oblongata, and a subarachnoid hemorrhage resulting from her atlanto-occipital subluxation. She also sustained seat belt contusions across the midline of her chest, across the suprapubic area of her abdomen, to her right shoulder, and to her left hip. In addition, she sustained a small right groin abrasion and contusions and lacerations to her left thigh. The driver (26-year-old male) of the C-1500 pickup was not wearing his available, active, three-point, lap and shoulder belt and sustained, according to the Police Crash Report, serious injuries as a result of this crash.

CRASH SCHEMATIC

TRC/IU CASE NO. 96-16

Scale: 1 cm = 2.5 m
(prior to reduction @ 94%)

N→



Vehicle #2 at Final Rest heading 177 degrees

Case Vehicle at Final Rest heading 328 degrees after being driven backwards and rotating counterclockwise

Point of impact and gouge mark from Vehicle #2 indicating location where Vehicle #2 began rotating counterclockwise

Road Surface: Asphalt
Road Condition: Wet
Curvature: Left-hand curve for Case Vehicle, Right-hand curve for Vehicle #2
Grade, at-impact: -2.9 % for Case Vehicle
Superelevation, at-impact: 8.7 % positive to south

TRC/IU ON-SITE AIR BAG INVESTIGATION

TRC/IU CASE NO. 96-16

FLEET - PRIVATE VEHICLE
LOCATION -

CRASH DATA

Location/Street:	State Road
State:	
Area/Type:	Rural, agricultural
Accident Date/Time:	1996, @ 9:37 p.m.
Investigating Police Agency:	State Police
Accident Type:	Sport Utility / Pickup - head-on
Occupant Injury Severity (air bag vehicle):	**Driver:** laceration left lateral ventricle (AIS-5) **Front Right Passenger:** laceration basilar artery (AIS-5)

AMBIENT CONDITIONS

Light Conditions:	Dark
Weather Condition:	Cloudy
Precipitation:	None
Road Surface:	Wet
Temperature:	88 degrees F @ the nearest Indiana airport

ROADWAY

	Case Vehicle	Vehicle #2
Location:	State road	State road
Number of Travel Lanes:	Two-lanes, undivided	Two-lanes, undivided
Width:	3.8 meters (12.5 feet)	3.6 meters (11.8 feet)
Surface Type:	Bituminous	Bituminous
Median:	None	None

ROADWAY (CONTINUED)

	Case Vehicle	Vehicle #2
Shoulders:	0.7 m (2.3 ft) bituminous; 1.35 (4.4 ft) gravel	0.8 m (2.6 ft) bituminous; 1.3 m (4.3 ft) gravel
Vertical alignment:	Curve left	Curve right
Horizontal alignment:	2.9% grade negative to east	2.9% grade positive to west
Estimated Coefficient of Friction:	0.75	0.75
Traffic Density:	Light	Heavy

TRAFFIC CONTROLS

	Case Vehicle	Vehicle #2
Signals:	None	None
Signs:	CURVE warning signs (i.e., Chevron Alignment sign: W1-8)	CURVE warning signs (i.e., Chevron Alignment sign: W1-8)
Markings:	Double solid yellow center lines and solid white lane line on south roadway edge	Double solid yellow center lines and solid white lane line on north roadway edge
Speed Limit:	72 km.p.h. (45 m.p.h.)	72 km.p.h. (45 m.p.h.)

VEHICLES

	Case Vehicle	Vehicle #2
Year:	1995	1986
Make:	Isuzu	GMC
Model:	Rodeo	C-1500 Sierra Classic
Body Type:	Four-door sport utility	½ Ton pickup with camper shell
V.I.N.	4S2CM58V8S4------	1GTDC14H2GJ------
Color:	White	Blue
Mileage:	9,009 km (5,598 miles)	Unknown
Engine:	3.2 liters, V-6	5.0 liters, V-8

VEHICLES (CONTINUED)

	Case Vehicle	Vehicle #2
Transmission:	Four-speed automatic	Unknown, 3- or 4-speed, manual or automatic
Steering:	Power-assisted, worm-and-gear	Power-assisted or manual, recirculating ball gear
Brakes:	Power-assisted, front disc, rear drum	Power-assisted or manual, front disc, rear drum
Padding:	Steering wheel and hub, sunvisors, dash, "A"-pillars, side door surfaces	Unknown, dash per photographs
Active Restraints:	Three-point, manual, lap and shoulder belts in front and rear outboard seating positions; lap belt only at back center position	Three-point, manual, lap and shoulder belts in front outboard seating positions; lap belt only at front center position
Passive Restraints:	Factory installed driver and front right passenger supplemental restraint systems (air bags)	None
Defects:	None	Unknown
Fleet:	Private vehicle	Private vehicle
Tow status:	Towed due to damage	Towed due to damage

VEHICLE DAMAGE

EXTERIOR	Case Vehicle	Vehicle #2
Deployment Impact		
Event number:	First	First
Object Struck:	Vehicle #2	Case Vehicle
Damage location		
Damaged Plane:	Front	Front
Vertical Location On Plane:	Bumper	Bumper
Direct Begins:	49 cm (19.3 in) in from right bumper corner	At left bumper corner
Length Direct:	92 cm (36.2 in)	Unknown
Field L:	150 cm (59.1 in)	Unknown
C_1:	104 cm (40.9 in)	Unknown

VEHICLE DAMAGE[1] (CONTINUED)

EXTERIOR (Continued)	**Case Vehicle**	**Vehicle #2**
Deployment Impact (Continued)		
C_2:	65cm (25.6 in)	Unknown
C_3:	45cm (17.7 in)	Unknown
C_4:	22cm (8.7 in)	Unknown
C_5:	7 cm (2.8 in)	Unknown
C_6:	0 cm (0.0 in)	Unknown
D:	-29cm (-11.4 in)	Unknown
Maximum Crush:	104cm (40.9 in)	Unknown, but extensive per photographs
Location:	C_1	C_1 per photographs
CDC:	11-FYEW-5 (-20)	12-FYEW-4 (+5)
Damaged Components:	Bumper, grille, hood, radiator, right & left headlight assemblies & fenders, left parklamp assembly, left front tire, rim, and door	Bumper, grille, hood, radiator, left[1] fender, headlight assembly, and left front tire, rim, & door per photographs
INTERIOR		
Damaged Components:	Steering wheel, instrument panel, left, center, & right dash, radio, rear-view mirror, driver's seat, driver & front right passenger air bag modules	Steering wheel, instrument panel, and left & center dash
Other Evidence of Occupant Contact:	Left front roof and sun-visor	Unknown
Manual Restraint System Failures:	None	Unknown
Seat Performance Failures:	None	Unknown
REPAIR[2]		
Cost Estimate:	Approximately $18,850 for submodel S, $21,250 for submodel LS; the submodel cannot be identified from either the VIN or the photographs	Approximately $1,550 - $2,500 depended upon the vehicle's condition

[1] The damage to vehicle #2's front right and right front is unknown because no usable photographs of these areas are available.

[2] According to the Auto Loan department at the Indiana University Credit Union, the indicated values represent the *"book value"* for the involved vehicles.

VEHICLE VELOCITY ESTIMATES[3,4]

Highest Delta "V"	**Case Vehicle**[3]	**Vehicle #2**
Reconstruction Program:	WinSMASH/EDCRASH	WinSMASH/EDCRASH
Program Algorithm:	ROLDMISS	ROLDMISS
Travel Speed[4]:	32 km.p.h. (20 m.p.h.)	97 km.p.h. (60 m.p.h.)
Total Delta "V":	43 km.p.h. (27 m.p.h.)	47 km.p.h. (29 m.p.h.)
Longitudinal Delta "V":	-40 km.p.h. (-25 m.p.h.)	-47 km.p.h. (-29 m.p.h.)
Lateral Delta "V":	+15 km.p.h. (+9 m.p.h.)	-4 km.p.h. (-3 m.p.h.)

COLLISION SEQUENCE

PRE-CRASH: According to the Police Crash Report, the scene inspection, and this contractor's inspection of the case vehicle, the case vehicle (Rodeo) was entering a left-hand curve, traveling east-northeast in the eastbound lane of a two-lane, undivided, state road and was attempting to continue in its eastward direction of travel. Vehicle #2 (C-1500 pickup) was negotiating a right-hand curve, traveling southwest in the same, two-lane, undivided, state road and was attempting to continue in its westward direction of travel. According to the Police Crash Report and the scene evidence, the driver of the case vehicle braked and steered right toward the south shoulder, attempting to avoid vehicle #2. The case vehicle swerved toward the right (i.e., traveling eastward) and continued essentially straight ahead prior to impact. According to the Police Crash Report and the scene inspection, the driver of vehicle #2 made no pre-crash avoidance maneuvers. Vehicle #2 continued straight ahead in the right-hand curve prior to impact. The crash occurred in the eastbound lane of the roadway.

CRASH: According to the vehicle inspection and the photographs of vehicle #2 (see **SELECTED PHOTOGRAPHS #80** and **#84**), the front left (half) of the case vehicle was impacted by the front left (half) of vehicle #2 causing both the driver and front right passenger supplemental restraint systems (air bags) to deploy. According to the Police Crash Report and the scene inspection, the case vehicle was knocked approximately 7 meters (23 feet) southwestward (backward) and rotated approximately 120 degrees counterclockwise after impact. The case vehicle came to rest on the south roadside heading north-northwest. According to the Police Crash Report and the scene inspection, vehicle #2 rotated counterclockwise after impact leaving gouges in the eastbound lane. Vehicle #2 came to rest approximately 19 meters (62 feet) west of impact, rotated approximately 70 degrees

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[3] The speed changes indicated below reflect only the case vehicle's crush and do not reflect the severity of the crash, as the case vehicle was knocked southwestward (backward) approximately 7 meters (23 feet) post-impact.

[4] These speed estimates are based on the scene inspection and crash dynamics. For additional discussion, see the page entitled: **TRC VECTOR ANALYSIS ITERATIONS**.

COLLISION SEQUENCE (CONTINUED)

CRASH: (Continued)

counterclockwise, and came to rest straddling, perpendicularly, the westbound lane heading south.

POST-CRASH:

Occupants: According to the ambulance run report, the driver of the case vehicle remained inside the vehicle at final rest. He was initially conscious, but was unable because of his injuries and the vehicle's condition[5] to exit the case vehicle. According to the ambulance run report, the front right passenger also remained inside the vehicle at final rest. She was unconscious and was unable because of her injuries and the vehicle's condition[5] to exit the case vehicle. According to the Police Crash Report, the case vehicle's driver was not using his available, active, three-point, lap and shoulder belt. According to the Police Crash Report, the ambulance run report, and the vehicle inspection, the front right passenger was using her available, active, three-point, lap and shoulder belt.

Police: According to the Police Crash Report, the investigating police agency was notified of the accident within 16 minutes and arrived on-scene within 24 minutes post-crash. Traffic control procedures were established and emergency medical, fire, and towing services were called to assist.

Rescue: According to the ambulance run report, on arrival the front right passenger's pupils were fixed and dilated, with no pulse or respirations, and she was cyanotic. Because she was unconscious and required extrication and the extrication equipment had not yet arrived, the front right passenger was declared unviable and subsequently pronounced dead on arrival at the scene. According to the ambulance run report, the driver was awake[6] and entrapped. The driver deteriorated and was subsequently pronounced dead at the scene. The case vehicle's driver sustained, according to his autopsy, multiple thoracic and abdominal injuries from the steering assembly, including: bilateral rib fractures, a transmural laceration and contusions to the left lateral ventricle, lacerated pericardium, bilateral lung lacerations and contusions with bilateral hemothorax, multiple liver lacerations, a lacerated spleen, and hemorrhagic injuries to the left adrenal gland and upper quadrant of mesentery. He sustained an atlanto-occipital subluxation, most likely from the roof. In addition, there were abrasions to his left cheek and anterior neck from his air bag and multiple soft tissue injuries to his chest and extremities. The case vehicle's front right passenger sustained, according to her autopsy, a lacerated basilar artery--at the level of the medulla oblongata, and a subarachnoid hemorrhage resulting from her atlanto-occipital subluxation. She also sustained seat belt contusions across the midline of her chest and suprapubic area of her

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[5] Neither of the case vehicle's doors could be opened without extrication tools. In this contractor's opinion, the case vehicle's driver was most likely entrapped by the intrusion of his vehicle's left dash and/or steering assembly. The front right passenger was most likely not entrapped in the NASS CDS meaning.

[6] The driver's initial Glasgow Coma Scale score was 12; however, eighteen minutes later the score was 3.

COLLISION SEQUENCE (CONTINUED)

POST-CRASH: Rescue: (Continued)

abdomen, and to her right shoulder and left hip. In addition, she sustained a small right groin abrasion and contusions and lacerations to her left thigh.

Removal: Following the police investigation, the case vehicle and vehicle #2 were towed from the scene.

HUMAN FACTORS/OCCUPANT DATA

DRIVERS:	**Case Vehicle**	**Vehicle #2**
Age:	39-year-old	26-year-old
Sex:	Male	Male
Height:	188 cm (74 in)	Unknown
Weight:	75 kg (166 lbs)	Unknown
Occupation:	Construction foreman	Unknown
Active Restraint System/Usage:	Three-point lap and shoulder/Not used	Three-point lap and shoulder/Not used
Usage Source:	Vehicle inspection, Police Crash Report, and autopsy	Police Crash Report
Passive Restraint System/Usage:	Factory installed air bag/Air bag deployed	Not equipped
Usage Source:	Vehicle inspection, Police Crash Report, and ambulance run report	Not applicable
Eyeglasses/contacts:	None	Unknown
Vehicle Familiarity:	Two to three months with unknown usage; majority of usage on odometer was driven by front right passenger (wife's vehicle)	Unknown
Route Familiarity:	Daily	Unknown
Trip Plan:	Home to restaurant	Unknown
Manner of Leaving Scene:	Ambulance	Ambulance
Type of Medical Treatment:	Pronounced dead at the scene	Hospitalized

HUMAN FACTORS/OCCUPANT DATA (CONTINUED)

FRONT RIGHT PASSENGER:	Case Vehicle
Age:	49-year-old
Sex:	Female
Height:	168 centimeters (66 inches)
Weight:	92 kilograms (202 pounds)
Active Restraint System/Usage:	Three-point lap and shoulder/Used
Usage Source:	Vehicle inspection, interviewee, Police Crash Report, and medical records
Passive Restraint System/Usage:	Factory installed front right air bag/Air bag deployed
Usage Source:	Vehicle inspection, Interviewee, Police Crash Report, and ambulance run report
Eyeglasses/contacts:	None
Manner of Leaving Scene:	Ambulance
Type of Medical Treatment:	Dead on arrival at scene

CASE VEHICLE DRIVER INJURIES[7,8,9]

Description of Injury	A.I.S.	Source of Data	Injury Mechanism	Certainty
Laceration, transmural[7], left lateral[8] ventricle	441012.5,4	1	Steering wheel hub, spokes, and rim	{Certain}
Contusions anterior and lateral left ventricle, not further specified	441002.3,4	1	Steering wheel hub, spokes, and rim	{Certain}
Laceration {opened} pericardial sac {pericardium}	441602.2,4	1	Steering wheel hub, spokes, and rim	{Certain}
Laceration[9] {penetration} of lungs, bilaterally, with bilateral hemothorax, 500 cc	441450.4,3	1	Steering wheel hub, spokes, and rim	{Certain}
Contusions, multiple, of lungs, bilaterally	441410.4,3	1	Steering wheel hub, spokes, and rim	{Certain}

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7 Dorland's Illustrated Medical Dictionary defines the following word as shown below:
transmural (trans-mu'ral) -- through the wall of an organ; extending through or affecting the entire thickness of the wall of an organ or cavity.

8 According to the driver's autopsy, his left lateral ventricle was punctured--1 centimeter (0.4 inches) in size, by either his left fifth or sixth rib.

9 According to the driver's autopsy, the lung lacerations (penetrations) corresponded to the rib fractures.

CASE VEHICLE DRIVER INJURIES[10,11] (CONTINUED)

Description of Injury	A.I.S.	Source of Data	Injury Mechanism	Certainty
Lacerations liver: right lobe, small subcapsular, left lobe, large intraparenchymal but not involving vena cava	541824.3,1	1	Steering wheel rim	{Probable}
Laceration spleen, small sub-capsular	544222.2,2	1	Steering wheel rim	{Probable}
Injury {hemorrhage} left adrenal gland	540299.1,2	1	Steering wheel rim	{Probable}
Injury {hemorrhage} left upper quadrant of mesentery	542099.2,8	1	Steering wheel rim	{Probable}
Fractured ribs, bilaterally: Left--4th anteriorly, 5th and 6th posteriorly; Right--4th through 6th laterally	450240.4,3	1	Steering wheel hub, spokes, and rim	{Certain}
Subluxation[10] {dislocation} atlanto-occipital joint	650208.2,6	1	Roof[11], left side	{Possible[11]}
Abrasions left cheek	290202.1,2	1	Air bag, driver's	{Certain}
Abrasions over Adam's apple on anterior neck	390202.1,5	1	Air bag, driver's	{Certain}
Contusions present in chest wall	490402.1,9	1	Steering wheel hub, spokes, and rim	{Certain}
Lacerations, dicing type, over shoulders, bilaterally	790602.1,3	1	Flying glass	{Certain}
Abrasion, two inches, on left wrist	790202.1,2	1	Air bag, driver's	{Probable}
Lacerations, two, small, right thumb	790602.1.1	1	Left instrument panel and below	{Probable}
Lacerations, two, small left thumb	790602.1,2	1	Left instrument panel and below	{Probable}
Contusion right thumb	790402.1,1	1	Left instrument panel and below	{Probable}
Abrasion, one inch in diameter, over right patellar	890202.1,1	1	Left instrument panel and below	{Probable}
Abrasion right medial lower leg and ankle	890202.1,1	1	Steering column, lower portion	{Probable}

[10] The driver's autopsy does not report any measurement of the amount of subluxation; in addition, the autopsy report indicated that no assessment of the driver's spinal cord was undertaken.

[11] The roof is coded because of the upward movement of the case vehicle's driver as a result of the severe crash. The expanding air bag struck the driver's left cheek and anterior neck, most likely with the upper portion of the air bag, and the air bag may have further propelled the driver upward into the roof where his head would have been driven backwards relative to his spine; see **SELECTED PHOTOGRAPHS #51** and **#52**. However, this injury can only be coded possible because it is also possible that the air bag itself caused or contributed to the atlanto-occipital subluxation.

CASE VEHICLE DRIVER INJURIES (CONTINUED)

Description of Injury	A.I.S.	Source of Data	Injury Mechanism	Certainty
Contusion, rectangular, above right knee and over right patellar	890402.1,1	1	Left instrument panel and below	{Probable}
Contusion right medial calf	890402.1,1	1	Steering column, lower portion	{Probable}
Abrasions, two, small, over left knee	890202.1,2	1	Left instrument panel and below	{Certain}

CASE VEHICLE FRONT RIGHT PASSENGER INJURIES[12,13,14,15,16]

Description of Injury	A.I.S.	Source of Data	Injury Mechanism	Certainty
Laceration of basilar artery[12] at the level of the medulla oblongata	120402.5,8	1	Air bag, front right passenger's[16]	{Possible}
Hemorrhage[13], subarachnoid, 50 cc	140684.3,9	1	Air bag, front right passenger's	{Possible}
Subluxation[14] {dislocation} atlanto-occipital joint	650208.2,6	1	Air bag, front right passenger's	{Possible}
Contusion, pattern[15], right shoulder	790402.1,1	1	Passenger's belt restraint webbing	{Certain}
Contusion, pattern[15], across midline of chest	490402.1,4	1	Passenger's belt restraint webbing	{Certain}

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[12] According to the front right passenger's autopsy, this injury was caused by the atlanto-occipital subluxation.

[13] According to the front right passenger's autopsy, this hemorrhage resulted from the laceration of the basilar artery.

[14] The front right passenger's autopsy does not report any measurement of the amount of subluxation; in addition, the autopsy report indicated that no assessment of the passenger's spinal cord was undertaken.

[15] According the front right passenger's autopsy, these contusions were shaped in the pattern of a seat belt.

[16] Please see the **DISCUSSION** section which follows, in addition to the material below, for greater detail pertaining to the selection of the indicated injury mechanism. The front right passenger's autopsy indicated that she sustained deceleration injuries. DORLAND'S ILLUSTRATED MEDICAL DICTIONARY defines this key term as follows:
deceleration injury (in'ja-re) -- an injury sustained by sudden deceleration in the movement of the body, as in a motor vehicle accident; the brain is especially liable to such trauma.
Acceleration-Deceleration injuries are further explained below. This material was taken from the chapter entitled: "Injuries of the Head and Spinal Cord" written by Shogan, Stephen H., M.D. and Kindt, Glenn W., M.D. from the book THE MANAGEMENT OF TRAUMA, 4TH EDITION, by Zuidema, George D., M.D.; Rutherford, Robert B., M.D.; and Ballinger, Walter F., M.D.; W.B. Sunders Company, Philadelphia, 1985.
Acceleration-deceleration injuries are most commonly seen in motor vehicle accidents. Here, the occupant of a car traveling at a high rate of speed may be rapidly brought to a near standstill. As the occupant's head abruptly stops, the cranial contents continue to travel forward, impacting against the inner surface of the skull. Widespread injury results as potentially tremendous amounts of kinetic energy are impacted to the brain and its coverings. Angular acceleration, differential deceleration, and rebound of the elastic tissues create marked shearing forces and resultant severe damage. Injuries of the acceleration-deceleration type tend to produce diffuse destruction. This is generally of greater severity than that seen with simple blunt impact.

CASE VEHICLE FRONT RIGHT PASSENGER INJURIES (CONTINUED)

Description of Injury	A.I.S.	Source of Data	Injury Mechanism	Certainty
Contusion, pattern[15], left hip and across suprapubic area of abdomen	590402.1,8	1	Passenger's belt restraint webbing	{Certain}
Abrasion, small, linear, right groin area	890202.1,1	1	Unknown	{Unknown}
Contusion left thigh, not further specified	890402.1,2	1	Unknown	{Unknown}
Lacerations, multiple, small, left thigh, not further specified	890602.1,2	1	Flying glass	{Possible}

CASE VEHICLE DRIVER KINEMATICS

The posture of the case vehicle's driver, immediately prior to the crash, is unknown. However, based on the scene inspection, the driver most likely had his left foot on the floor and his right foot on the brake. According to the vehicle inspection, the driver's seat track position was not determinable, and the case vehicle was not equipped with a tilt steering wheel. According to the vehicle inspection, the Police Crash Report, and on-scene photographs (see **SELECTED PHOTOGRAPHS #20**), the case vehicle's driver was not wearing his available, active, three-point, lap and shoulder belt.

According to the scene evidence, the case vehicle's driver steered to the right and braked, attempting to avoid the crash. As a result of these attempted avoidance maneuvers and the nonuse of his available safety belts, he most likely moved slightly forward and to his left just prior to impact.

Based on the vehicle and scene inspections, nonuse of his safety belts, and occupant kinematic principles, the case vehicle's impact with vehicle #2 not only deployed the driver's air bag, but thrust the driver forward, slightly leftward, and rapidly upward (i.e., because of the severe nature of the crash). As the driver moved vertically forward, he was struck in the chest by his deploying air bag and the intruding steering column assembly causing his fatal thoracic lesions. Because of the severe nature of the crash, and possibly with the help of the upper portion of his deploying air bag[17], the case vehicle's driver went over the top of the steering assembly and most likely struck the top of his head against the left roof near the left back corner of the driver side sunvisor; see **SELECTED PHOTOGRAPHS #51** and **#52**. An inspection of the driver's air bag revealed substances of an unknown origin[18]; see **SELECTED PHOTOGRAPHS #55** and **#61**. In addi-tion, there was no evidence on the driver air bag module's cover flap.

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[17] The case vehicle's driver was most likely struck on his left cheek and on his anterior neck (i.e., over his Adam's apple) by the upper portion of his deploying air bag.

[18] According to the driver's ambulance run report, two attempts were made to insert intravenous fluids into the driver, both of which were unsuccessful. It is possible that the marks on the driver's air bag were IV fluid residue.

CASE VEHICLE DRIVER KINEMATICS (CONTINUED)

The case vehicle's driver most likely rebounded rearward and, initially, leftward toward the left roof side rail and/or "B"-pillar (i.e., because the case vehicle rotated counterclockwise as a result of its impact). Subsequently, the case vehicle's driver most likely moved toward his right. However, his movement was restricted because of the severe intrusion of the case vehicle's left dash and steering column assembly. At final rest, the case vehicle's driver was seated upright--most likely similar to his pre-crash position, with his legs turned toward the right by the intruding dash, his torso pushed back against the seat back by the intruding steering assembly, and his head slumped over his deployed air bag; see **SELECTED PHOTOGRAPH #20**.

CASE VEHICLE PASSENGER KINEMATICS

The posture of the case vehicle's front right passenger, immediately prior to the crash, is also unknown. However, the passenger's feet were most likely on the floor, but her hand positions are unknown. Based on the vehicle inspection, the front right passenger's seat back was found in a slightly reclined position. The passenger's seat track was located in its rearmost position and, according to the emergency medical technicians, was not moved during or as a result of her extrication. According to the vehicle inspection, the Police Crash Report, her ambulance run report, the available on-scene photographs (see **SELECTED PHOTOGRAPHS #20**), she was restrained by her available, active, three-point, lap and shoulder belt.

As a result of the case vehicle's attempted avoidance maneuvers (i.e., steering right and braking) and the use of her available safety belts, the front right passenger most likely moved slightly forward and to her left just prior to impact.

Based on the vehicle and scene inspections, her use of her safety belts, and occupant kinematic principles, the case vehicle's primary impact with vehicle #2 not only deployed the front right passenger air bag, but thrust the front right passenger forward and slightly leftward. As the front right passenger moved forward, she loaded her safety belts resulting in discernable seat belt contusions across her right shoulder, chest, and abdomen. In addition, she almost certainly contacted her deploying front right air bag. An inspection of the front right passenger's air bag revealed possible occupant contacts; see **SELECTED PHOTOGRAPHS #69** through **#71**. In addition, there appeared to be no evidence of contact on the front right passenger air bag module's cover flap; see **SELECTED PHOTOGRAPH #72**. As a result of loading her safety belts and contacting her air bag, the passenger's forward momentum was brought to a halt.

The case vehicle's front right passenger most likely rebounded rearward and, initially, leftward toward the left side of her seat back (i.e., because the case vehicle rotated counterclockwise as a result of its impact). Her leftward movement was restricted by her lap belt but less so by her torso belt (i.e., since the torso portion was connected between her left hip and right shoulder). At final rest, the case vehicle's front right passenger was seated, slumped toward the left, with her head between the two front bucket seats; see **SELECTED PHOTOGRAPHS #17** and **#18**.

DISCUSSION

Of importance in this investigation is what influence did the case vehicle's safety restraints (i.e., safety belts and air bags) have in the fatalities of the two occupants. For the case vehicle's driver, his lack of safety belt usage most likely contributed to his thoracic cavity lesions because the primary thrust of his air bag, in addition to his intruding steering column assembly, was directed solely toward his torso rather than being spread evenly across his head and chest. It is also possible that the driver's air bag may have contributed to his atlanto-occipital subluxation[19] because the upward expanding portion of the upper part of his air bag most likely caught the driver near his neck as he was moving upward from the collision forces. However, the presence of the air bag most likely kept the driver from being killed instantly when he otherwise would have been impaled on his steering assembly. Had the driver been wearing his safety belt, it is possible that he would have survived given the combination of his belts and air bag. However, it must be kept in mind that this was a severe collision and, because of the offset nature of the crash towards the driver's side and the fact that the reported Delta V's represent the velocity change at the vehicle's center-of-gravity, the driver's Delta V is most likely higher than the reconstruction model reported.

For the case vehicle's front right passenger, this contractor's conclusion is that she was possibly fatally injured by her deploying air bag; however, the evidence is far from conclusive. The front right passenger's seat track was most likely located at its rearmost position, thus putting her as far back as possible from her deploying air bag. The front right passenger's autopsy indicates that her cause of death was a deceleration injury (see footnote #16). According to the resident pathologist who performed the autopsy on the front right passenger, the pathologist thought that the fatal lesion most likely resulted when the occupant's head hyperflexed backwards over her seat back during the occupant's rebound from her successfully used safety belts. However, the pathologist did not know at the time of the autopsies that air bags were involved in the crash. In addition, the pathologist did not know that the case vehicle was equipped with adjustable head restraints that were at least adequately positioned; see **SELECTED PHOTOGRAPH #39**[20]. Given the passenger's short stature [168 centimeters (66 inches)], age (49 years), documented injuries (i.e., atlanto-occipital subluxation resulting in a flexion type[21] laceration of her basilar artery at the level of the medulla oblongata and most likely a spinal cord lesion), and the fact that she was most likely deceased at the time the emergency medical technicians arrived, this contractor considered the front right occupant as a likely candidate for having been fatally injured by her air bag. However: her seat was most likely positioned in its rearmost track position, there is no clearly discernable contact evidence on the front right passenger's air bag, and as the resident pathologist points out, there is no evidence of facial injury from contacting the

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[19] According to autopsy reports, the spinal cords of the case vehicle's driver and front right passenger were not examined. When questioned by this contractor regarding the significance of this non-examination, the resident pathologist who performed the autopsies indicated that when an atlanto-occipital subluxation occurs, there is a presumption of spinal cord injury.

[20] This photograph is the best photograph available that shows the front right passenger's head restraint just after the crash. This photograph shows the front right passenger's head restraint in front of the head restraint for the back right position and that the front right passenger's seat back was slightly reclined prior to the crash. In addition, this photograph shows the leftward tilting of the front right passenger's seat caused by the crash. This contractor, after noting the front right passenger's seat inclination, laid the seat backwards in order to obtain clearer photographs of the case vehicle's driver seating area.

[21] According to the resident pathologist who performed the autopsy, the basilar artery laceration was a tension (stretching) type lesion rather than a shearing type lesion.

DISCUSSION (CONTINUED)

air bag. Based on the preponderance of the evidence, this contractor contends that it is no more than a possibility that the front right passenger's air bag caused the fatal lesions.

AIR BAG SYSTEM

	DRIVER AIR BAG	PASSENGER AIR BAG
Air Bag Diameter (seam-to-seam, deflated):	Width: 61 cm (24.0 in) Height: 65 cm (25.6 in)	Width: 50 cm (19.7 in) Height: 67 cm (26.4 in)
Number of Vent Holes:	Two	Two
Vent Hole Diameter:	5.0 cm (2.0 in)	6.0 cm (2.4 in)
Vent Hole Clock Positions:	Approximately Ten and Two o'clock	Approximately Ten and Two o'clock
Number of Air Bag Tethers:	Two	Two
Number of Air Bag Module Cover Flaps:	Two	One
Upper Cover Flap Dimensions:	Width: 13.5 cm (5.3 in) Height: 8.0 cm (3.1 in)	Width: 27 cm (10.6 in) Height: 8 cm (3.1 in)
Lower Cover Flap Dimensions:	Width: 13.5 cm (5.3 in) Height: 8.0 cm (3.1 in)	Not applicable
Distance between Dash and leading (i.e., closest) edge of Module's Cover Flap:	**Not applicable**	0 cm (0.0 in)
Generant Residue:	No unusual amount found	No unusual amount found

Appendix A:

RECONSTRUCTION PROGRAM RESULTS:

WINSMASH
(MISSING VEHICLE ALGORITHM)

EDCRASH
(MISSING VEHICLE ALGORITHM)

TRC VECTOR ANALYSIS ITERATIONS

WINSMASH

(MISSING VEHICLE ALGORITHM)

-- INCLUDING

BARRIER EQUIVALENT SPEEDS)

Two WinSMASH runs were make. The first run no crush measurements were entered for vehicle #2. In the second run, the mirror image of the case vehicle's crush was used for vehicle #2 (i.e., the case vehicle's C_1 crush measurement was also used for vehicle #2's C_1 crush, etc.). The only difference was that the undeformed end width for vehicle #2 (i.e., the L measurement) was estimated as larger than the case vehicle's undeformed end width.

U.S. Department of Transportation
National Highway Traffic Safety Administration

SMASH PROGRAM SUMMARY

(All Measurements In Metric)

NATIONAL ACCIDENT SAMPLING SYSTEM
CRASHWORTHINESS DATA SYSTEM

Identifying Title

10	9616	01	/ /
Primary Sampling Unit	Case No.-Stratum	Accident Event Sequence No.	Date (Month, day, year) of Run

GENERAL INFORMATION

	VEHICLE 1	VEHICLE 2
NASS Vehicle Number	01	02
Year	1995	1986
Make	ISUZU	GMC
Model	RODEO 4WD	SIERRA CLASSIC C-1500
Body Style	4U	PU
CDC	11 F Y E W 5	12 F Y E W 4
PDOF	±020°	±005°
Heading Angle	±090°	±245°

VEHICLE SPECIFICATIONS

	VEHICLE 1	VEHICLE 2
Wheelbase	276 cm	298 cm
Overall Length	469 cm	491 cm
Overall Width	174 cm	202 cm
Weight	1828 + 167 + 0 = 1995 kg	1602 + 104 + 100 = 1806 kg
	Curb / Occupant(s) / Cargo	Curb / Occupant(s) / Cargo
Engine Displacement	3.2 L	5.0 L
Drive System	4WD	RWD
Size	3	5
Stiffness	8	8

DAMAGE INFORMATION

	VEHICLE 1	VEHICLE 2
Damage Known?	Y	N
Damage Length	150 cm	___ cm
Damage Offset	±029 cm	± ___ cm
Crush Depth: C1	104 cm	___ cm
C2	065 cm	___ cm
C3	045 cm	___ cm
C4	022 cm	___ cm
C5	007 cm	___ cm
C6	000 cm	___ cm

HS Form 435D (1/96)

SCENE INFORMATION

Rest and Impact Positions [ ] No [ ] Yes

VEHICLE 1			VEHICLE 2		
Rest Position	X	___ ___ ___ . ___ m	Rest Position	X	___ ___ ___ . ___ m
	Y	___ ___ ___ . ___ m		Y	___ ___ ___ . ___ m
	Heading Angle	___ ___ ___ °		Heading Angle	___ ___ ___ °
Impact Position	X	___ ___ ___ . ___ m	Impact Position	X	___ ___ ___ . ___ m
	Y	___ ___ ___ . ___ m		Y	___ ___ ___ . ___ m
	Heading Angle	___ ___ ___ °		Heading Angle	___ ___ ___ °
Slip Angle (-180 to +180)		___ ___ ___ °	Slip Angle (-180 to +180)		___ ___ ___ °

VEHICLE MOTION

Sustained Contact [ ] No [ ] Yes

VEHICLE 1

Vehicle Rotation [ ] No [ ] Yes

Rotation Stop Before Rest [ ] No [ ] Yes

End of Rotation Position X ___ ___ ___ . ___ m

Y ___ ___ ___ . ___ m

Heading Angle ___ °

Curved Path [ ] No [ ] Yes

Point on Path X ___ . ___ m Y ___ . ___ m

Rotation Direction [ ] None [ ] CW [ ] CCW

Rotation >360° [ ] No [ ] Yes

Sustained Contact [ ] No [ ] Yes

VEHICLE 2

Vehicle Rotation [ ] No [ ] Yes

Rotation Stop Before Rest [ ] No [ ] Yes

End of Rotation Position X ___ ___ ___ . ___ m

Y ___ ___ ___ . ___ m

Heading Angle ___ °

Curved Path [ ] No [ ] Yes

Point on Path X ___ . ___ m Y ___ . ___ m

Rotation Direction [ ] None [ ] CW [ ] CCW

Rotation >360° [ ] No [ ] Yes

FRICTION INFORMATION

Coefficient of Friction ___ ___

Rolling Resistance Option 1

Vehicle 1 Rolling Resistance		Vehicle 2 Rolling Resistance	
LF	___ . ___ ___	LF	___ . ___ ___
RF	___ . ___ ___	RF	___ . ___ ___
LR	___ . ___ ___	LR	___ . ___ ___
RR	___ . ___ ___	RR	___ . ___ ___

IF THIS COMMON IMPACT WAS WITH A CDS VEHICLE *NOT IN TRANSPORT*, FILL IN THE INFORMATION BELOW.

Model Year: _____

Make: _____

Model: _____

VIN: _____

The Weight, CDC, Scene Data and Damage Information for this vehicle should be recorded above.

Complete and ATTACH the appropriate damage sketch and dimensions to the form.

General Information

TRC/IU 96-16

	Vehicle 1	Vehicle 2
Year:	1995	1986
Make:	Isuzu	GMC
Model:	Rodeo	Sierra Classic C-1500
Body Style:	4U	PU
CDC:	11FYEW5	12FYEW4
Damaged Side:		
PDOF:	-20°	5°
Heading Angle:	90°	245°

Vehicle Information

	Vehicle 1	Vehicle 2
Wheelbase:	276.0 cm	298.0 cm
Length:	469.0 cm	491.0 cm
Width:	174.0 cm	202.0 cm
Weight:	1995.0 kg	1806.0 kg
Center of Gravity:	228.1 cm	258.6 cm
Radius of Gyration:	140.7 cm	147.3 cm
D0:	105.7 sqrt(N)	105.7 sqrt(N)
D1:	8.0 sqrt(N)/cm	8.0 sqrt(N)/cm
Size Category:	3	5
Stiffness Category:	8	8

Vehicle 1: Used d0 and d1 values estimated from the vehicle size.
Vehicle 2: Used d0 and d1 values estimated from the vehicle size.

Damage Information

	Vehicle 1	Vehicle 2
Damage Length:	150.0 cm	ROLDMISS
Damage Offset:	0.0 cm	
Field L - D:	-29.0 cm	-45.0 cm
C1:	104.0 cm	
C2:	65.0 cm	
C3:	45.0 cm	
C4:	22.0 cm	
C5:	7.0 cm	
C6:	0.0 cm	

Summary of Results Using Damage

Vehicle 1

	Speed Change (Damage)	
Total:	42.6 km/h	(26.5 m.p.h.)
Longitudinal:	-40.0 km/h	(-24.9 m.p.h.)
Latitudinal:	14.6 km/h	(+9.1 m.p.h.)
PDOF:	-20°	

Energy Dissipated:	168,904 Joules	
Barrier Equivalent Speed:	44.9 km/h	(27.9 m.p.h.)
Moment Arm of Principle Force:	40.3 cm (CW)	
Change in Angular Velocity:	1.4 deg/seconds	

Used d0 and d1 values estimated from the vehicle size.

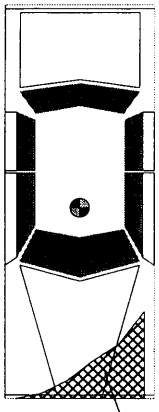
Vehicle 2

	Speed Change (ROLDMISS)	
Total:	47.1 km/h	(29.3 m.p.h.)
Longitudinal:	-46.9 km/h	(-29.1 m.p.h.)
Latitudinal:	-4.1 km/h	(-2.5 m.p.h)
PDOF:	5°	

Energy Dissipated:	168,904 Joules	
Barrier Equivalent Speed:	44.7 km/h	(27.8 m.p.h.)
Moment Arm of Principle Force:	-67.4 cm (CCW)	
Change in Angular Velocity:	-2.3 deg/seconds	

Used d0 and d1 values estimated from the vehicle size.

Damage



PDOF

Missing

1995 Isuzu Rodeo 4U

1986 GMC Sierra Classic C-1500 PU

General Information

TRC/IU 96-16

	Vehicle 1	Vehicle 2
Year:	1995	1986
Make:	Isuzu	GMC
Model:	Rodeo	Sierra Classic C-1500
Body Style:	4U	PU
CDC:	11FYEW5	12FYEW4
Damaged Side:		
PDOF:	-20°	5°
Heading Angle:	90°	245°

Vehicle Information

	Vehicle 1	Vehicle 2
Wheelbase:	276.0 cm	298.0 cm
Length:	469.0 cm	491.0 cm
Width:	174.0 cm	202.0 cm
Weight:	1995.0 kg	1806.0 kg
Center of Gravity:	228.1 cm	258.6 cm
Radius of Gyration:	140.7 cm	147.3 cm
D0:	105.7 sqrt(N)	105.7 sqrt(N)
D1:	8.0 sqrt(N)/cm	8.0 sqrt(N)/cm
Size Category:	3	5
Stiffness Category:	8	8

Vehicle 1: Used d0 and d1 values estimated from the vehicle size.
Vehicle 2: Used d0 and d1 values estimated from the vehicle size.

Damage Information

	Vehicle 1	Vehicle 2
Damage Length:	150.0 cm	180.0 cm
Damage Offset:	0.0 cm	0.0 cm
Field L - D:	-29.0 cm	-45.0 cm
C1:	104.0 cm	104.0 cm
C2:	65.0 cm	65.0 cm
C3:	45.0 cm	45.0 cm
C4:	22.0 cm	22.0 cm
C5:	7.0 cm	7.0 cm
C6:	0.0 cm	0.0 cm

Summary of Results Using Damage

Vehicle 1

	Speed Change (Damage)	
Total:	44.9 km/h	(27.9 m.p.h.)
Longitudinal:	-42.1 km/h	(-26.2 m.p.h.)
Latitudinal:	15.3 km/h	(+ 9.5 m.p.h.)
PDOF:	-20°	

Energy Dissipated:	168,904 Joules	
Barrier Equivalent Speed:	44.9 km/h	(27.9 m.p.h.)
Moment Arm of Principle Force:	40.3 cm (CW)	
Change in Angular Velocity:	1.5 deg/seconds	

Used d0 and d1 values estimated from the vehicle size.

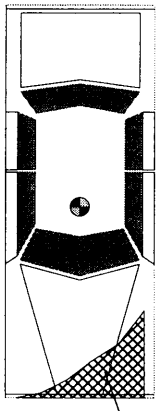
Vehicle 2

	Speed Change (Damage)	
Total:	49.5 km/h	(30.8 m.p.h.)
Longitudinal:	-49.4 km/h	(-30.7 m.p.h.)
Latitudinal:	-4.3 km/h	(- 2.7 m.p.h.)
PDOF:	5°	

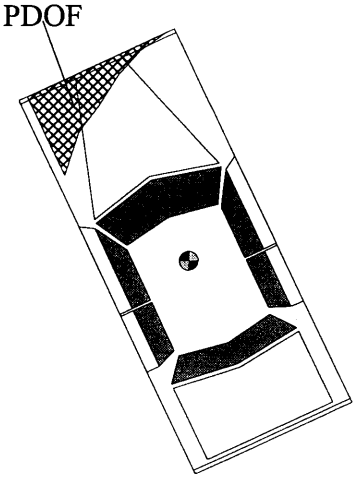
Energy Dissipated:	202,684 Joules	
Barrier Equivalent Speed:	49.3 km/h	(30.6 m.p.h.)
Moment Arm of Principle Force:	-64.7 cm (CCW)	
Change in Angular Velocity:	-2.4 deg/seconds	

Used d0 and d1 values estimated from the vehicle size.

Damage



1995 Isuzu Rodeo 4U



1986 GMC Sierra Classic C-1500 PU

CASE NUMBER IN9616

NO DATA

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PAGE NUMBER(S)

19-23

EDCRASH

(MISSING VEHICLE ALGORITHM)

CASE NUMBER IN9616

NO DATA

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PAGE NUMBER(S)

25 + 26

TRC VECTOR ANALYSIS ITERATIONS

The TRC Vector Analysis program was used to determine the resultant theoretical Direction of Principal Force for both vehicles. Heading angles were determined from a combination of the Police Crash Report, the scene, and the vehicle inspections, and weights were obtained from original specifications, the interviewee, and autopsies. Based on our inspection of the case vehicle's crush, this contractor initially estimated the case vehicle's Direction of Principal Force as -20 degrees. Base on the available police photographs, this contractor initially estimated vehicle #2's Direction of Principal Force as 360 degrees.

No driver interviews were obtained. The Police Crash Report and the physical evidence at the scene indicates that the case vehicle's driver steered right and brake to avoid vehicle #2. Based on the scene inspection, this contractor believes that the case vehicle was most likely traveling 64-80 km.p.h. (40-50 m.p.h.) prior to the driver's attempted avoidance maneuvers. Because skidmarks were noted on the Police Crash Report and observed at the scene, his speed at impact was most likely 24-40 km.p.h. (15-25 m.p.h.). According to the Police Crash Report, just prior to the crash vehicle #2 had passed several other vehicles at a ***"high rate of speed"***. Because no skidmarks were present for vehicle #2, vehicle #2 most likely was traveling 80-97 km.p.h. (50-60 m.p.h.).

Twelve iterations of vehicle speeds are shown below: 24-40 km.p.h. (15-25 m.p.h.) for the case vehicle and 80-105 km.p.h. (50-65 m.p.h.) for vehicle #2. The program indicates that: (1) as the case vehicle's speed increases, the force collinearity vector rotates less than +5 degrees for both vehicles, and (2) as vehicle #2's speed increases, the force collinearity vector rotates no more than -2 degrees for both vehicles. Iteration number seven most closely matches the observed vehicle dynamics. Therefore, the impact speeds for the case vehicle and vehicle #2 are most likely 32 km.p.h. (20 m.p.h.) and 97 km.p.h. (60 m.p.h.), respectively. In accordance with NASS, CDS protocol, the Direction of Principal Forces were assigned at -20 for the case vehicle and +5 for vehicle #2.

CASE NUMBER IN9616

NO DATA

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PAGE NUMBER(S)

28-31

Appendix B:

SELECTED PHOTOGRAPHS

A total of eighty-eight color copies of photographs are presented and referenced as Photograph **#01** through Photograph **#88**. Photographs numbered **#17** though **#20**, and **#88** were taken and made available by the applicable county Sheriff Department. Photographs **#22**, **#23**, **#39**, **#65**, and **#80** through **#87** were taken and made available by the State Police. The remainder of these photographs were taken by the Transportation Research Center.

01: Case Vehicle's eastward travel path approaching left hand curve approximately 90 meters (295 feet) west of impact area

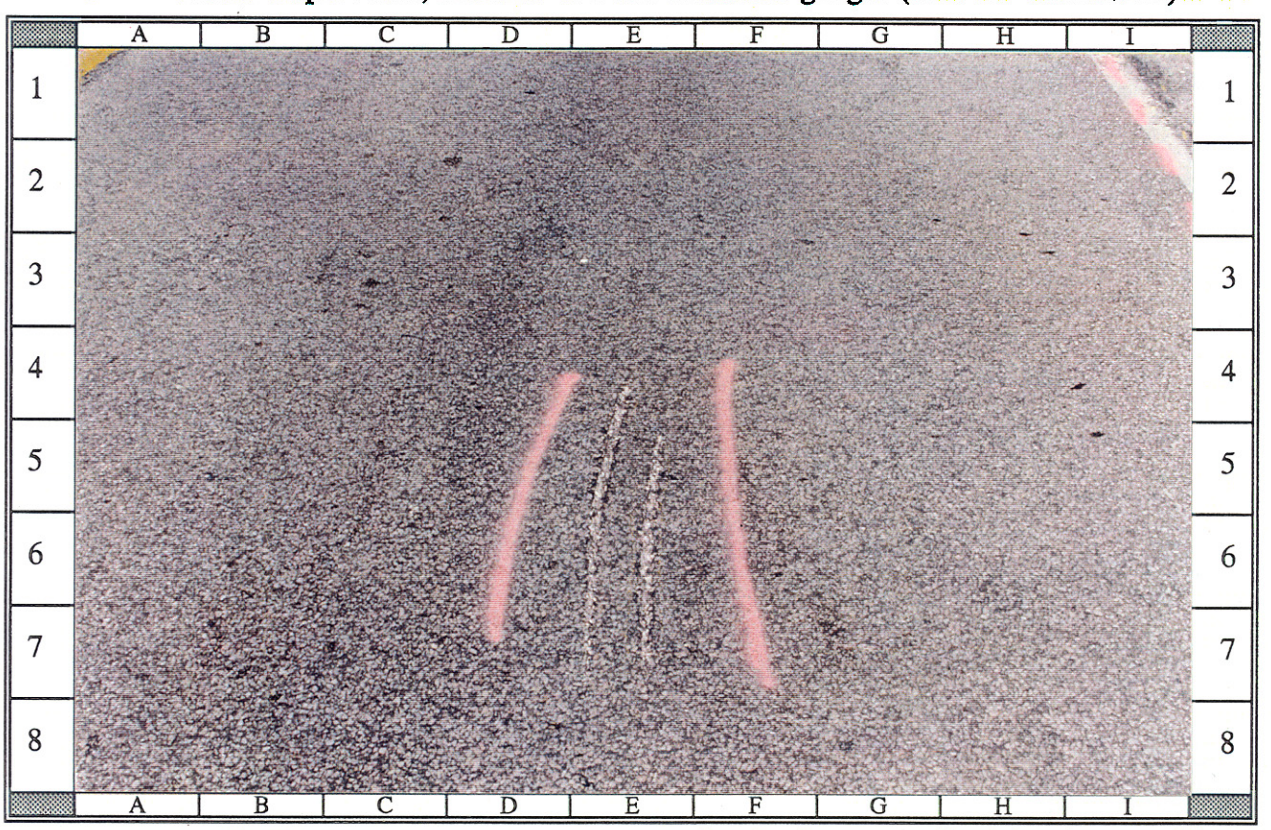
02: Case Vehicle's eastward travel path entering left hand curve approximately 60 meters (197 feet) west of impact area

03: Case Vehicle's eastward travel path in left hand curve approximately 40 meters (131 feet) west of impact area

04: Case Vehicle's east-northeastward travel path approximately 20 meters (66 feet) west of impact area; NOTE: double gouges in mid-lane (cell F6)

On-Site Scene View of Crash Involving a 1995 Isuzu Rodeo (Case Vehicle) and a 1986 GMC Pickup (Vehicle #2)

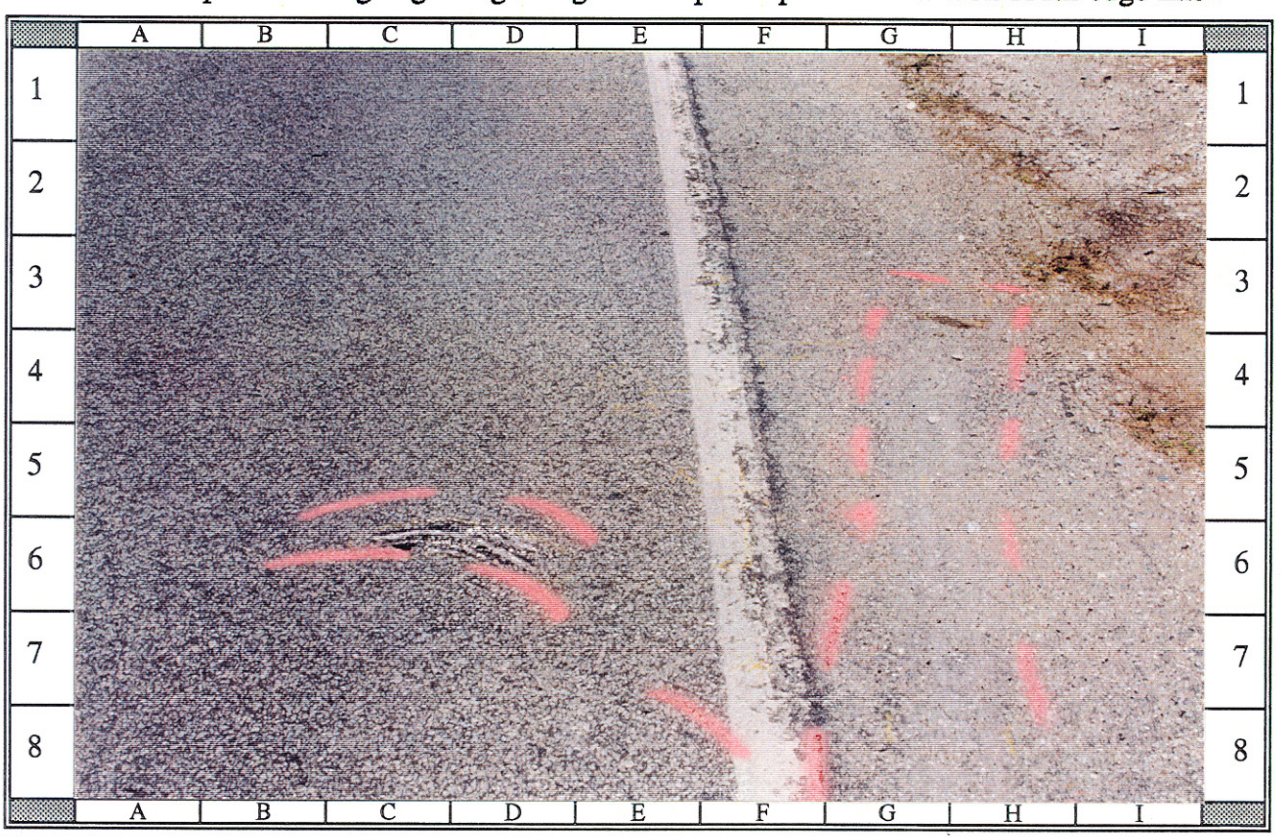
05: Case Vehicle's east-northeastward travel path approximately 10 meters (33 feet) west of impact area; NOTE: two sets of double gouges (cells E7--E8 and F5)



06: Close-up of double gouges in mid-eastbound lane located approximately 5 meters (16 feet) west of impact; NOTE: gouges from Vehicle #2's post-impact travel

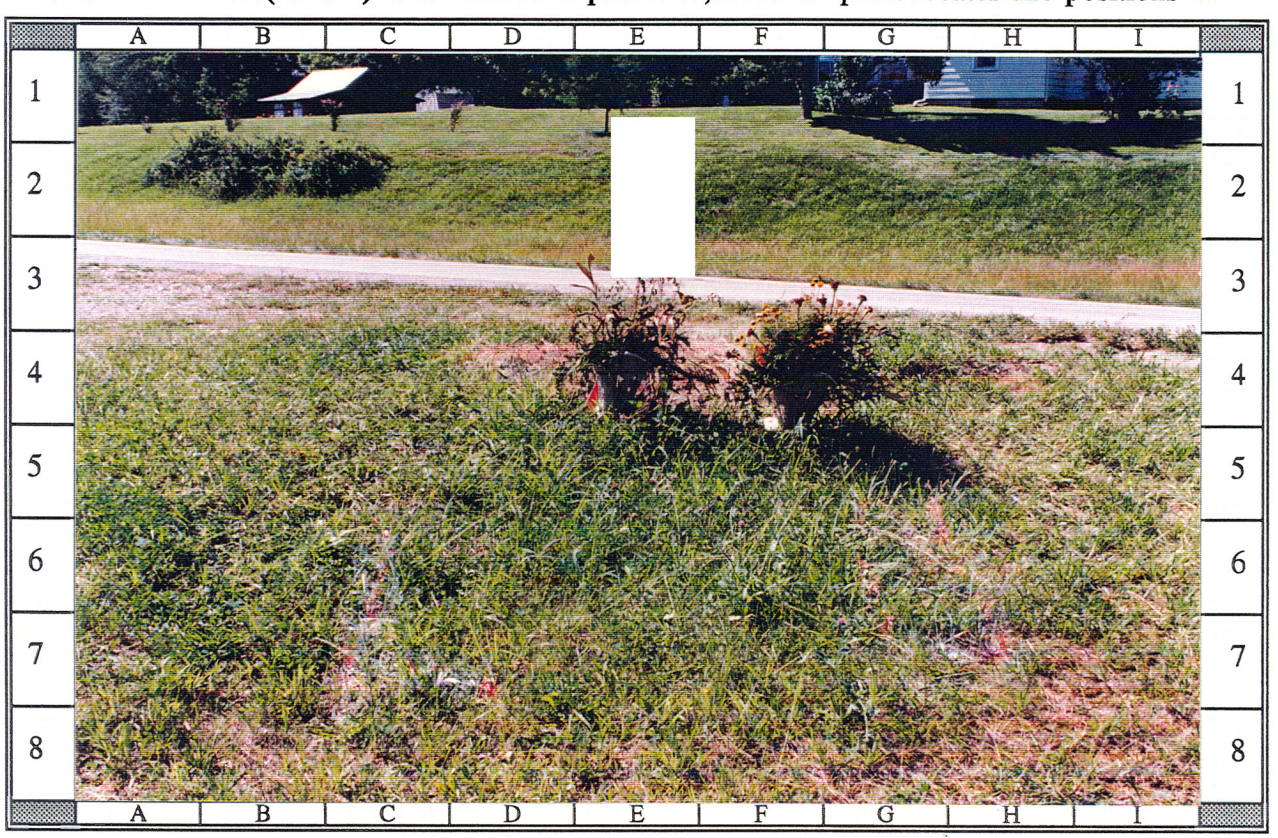
On-Site Scene View of Crash Involving a 1995 Isuzu Rodeo (Case Vehicle) and a 1986 GMC Pickup (Vehicle #2)

07: Case Vehicle's eastward travel path approximately 5 meters (16 feet) west of impact showing beginning of right front pre-impact skidmark on south edge line



08: Eastward close-up view of Case Vehicle's impact area showing right front skid-mark and parallel double gouges from Vehicle #2's post-impact rotation

09: South-southeastward view of Case Vehicle's final rest position approximately 7 meters (23 feet) southwest of impact area; NOTE: paint locates tire positions



10: North-northwestward view of Case Vehicle's final rest position approximately 7 meters (23 feet) southwest of impact area; NOTE: paint locates tire positions

11: Westward view from impact area of Case Vehicle's eastward travel path into left hand curve; NOTE: negative slope in Case Vehicle's direction of travel

12: Northeastward view of Vehicle #2's southwest travel path in right hand curve viewed from beyond impact area; NOTE: orange cone marks location of sag

13: Vehicle #2's southwestward travel path ~ 105 meters (344 feet) northeast of impact; NOTE: decreasing radius right hand curve and negative grade

14: Vehicle #2's southwestward travel path approximately 50 meters (164 feet) northeast of impact; NOTE: Vehicle #2 has traversed sag and grade is positive

15: Vehicle #2's southwestward travel path approximately 16 meters (52 feet) north-east of impact; NOTE: impact is midway along south guardrail's end section

16: Southwestward view of Vehicle #2's impact area; NOTE: no pre-impact skid-marks by Vehicle #2 and final rest location of Case Vehicle in background

WARNING

The following two pages contain photographs with graphic detail which show the tragic consequences of a motor vehicle crash!

"GRAPHIC"
PHOTOGRAPHS AND IMAGES

The following "GRAPHIC" Photographs and Images have been removed from this case.

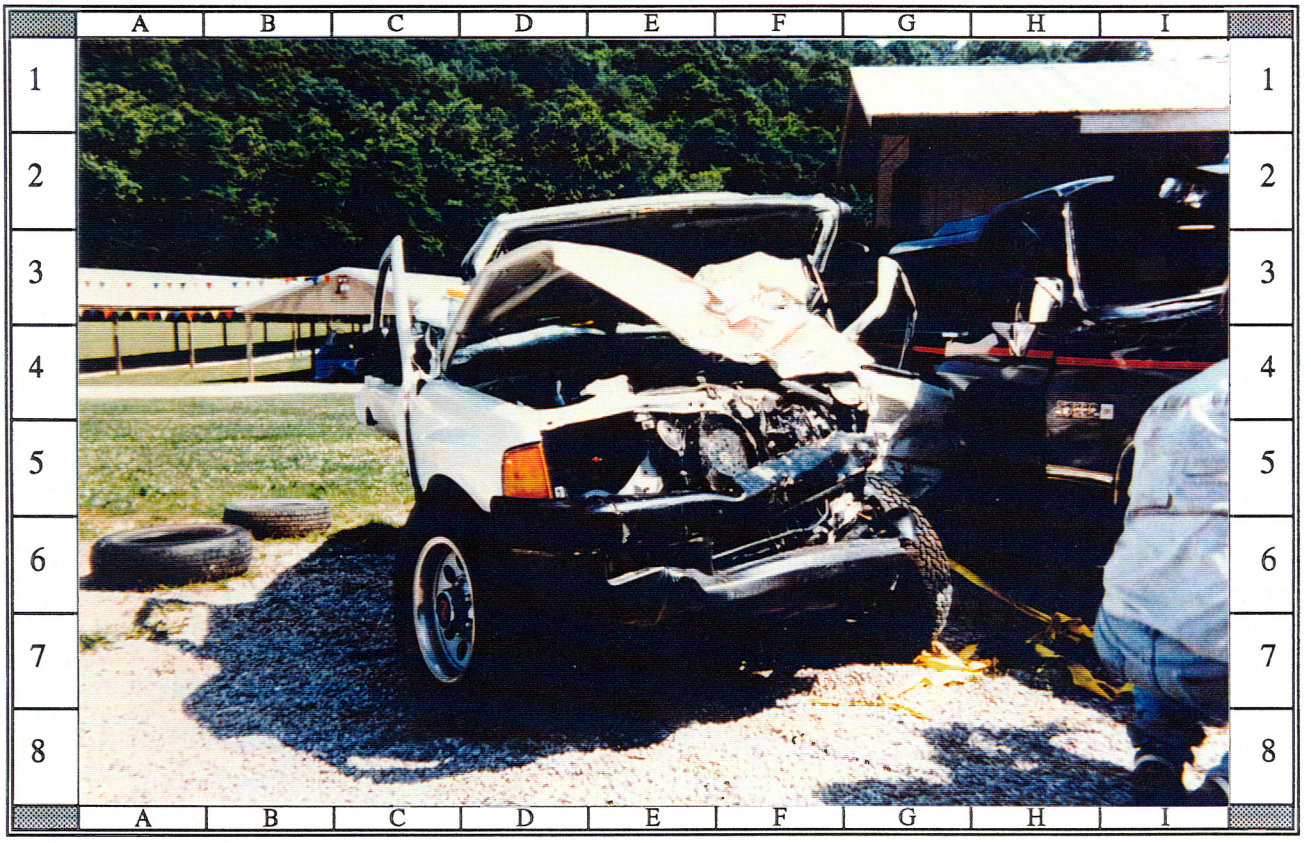
page 49 photos #17 & #18 page 50 photos #19 & #20

If you would like a copy of these photographs and/or images please write to:

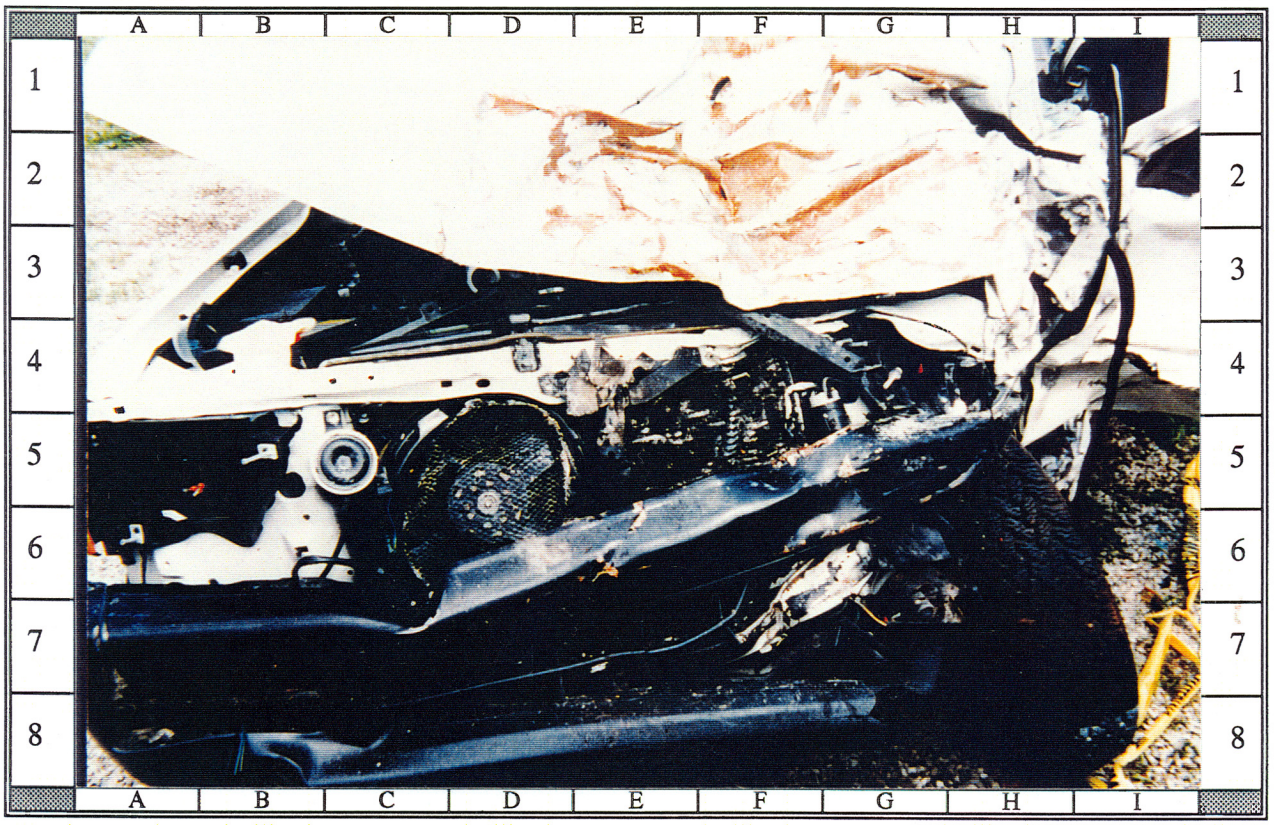
MARJORIE SACCOCCIO
VOLPE NATIONAL TRANSPORTATION SYSTEMS CENTER
55 BROADWAY
CAMBRIDGE, MA 02142

In the body of your request please include the case, photograph and image number(s).

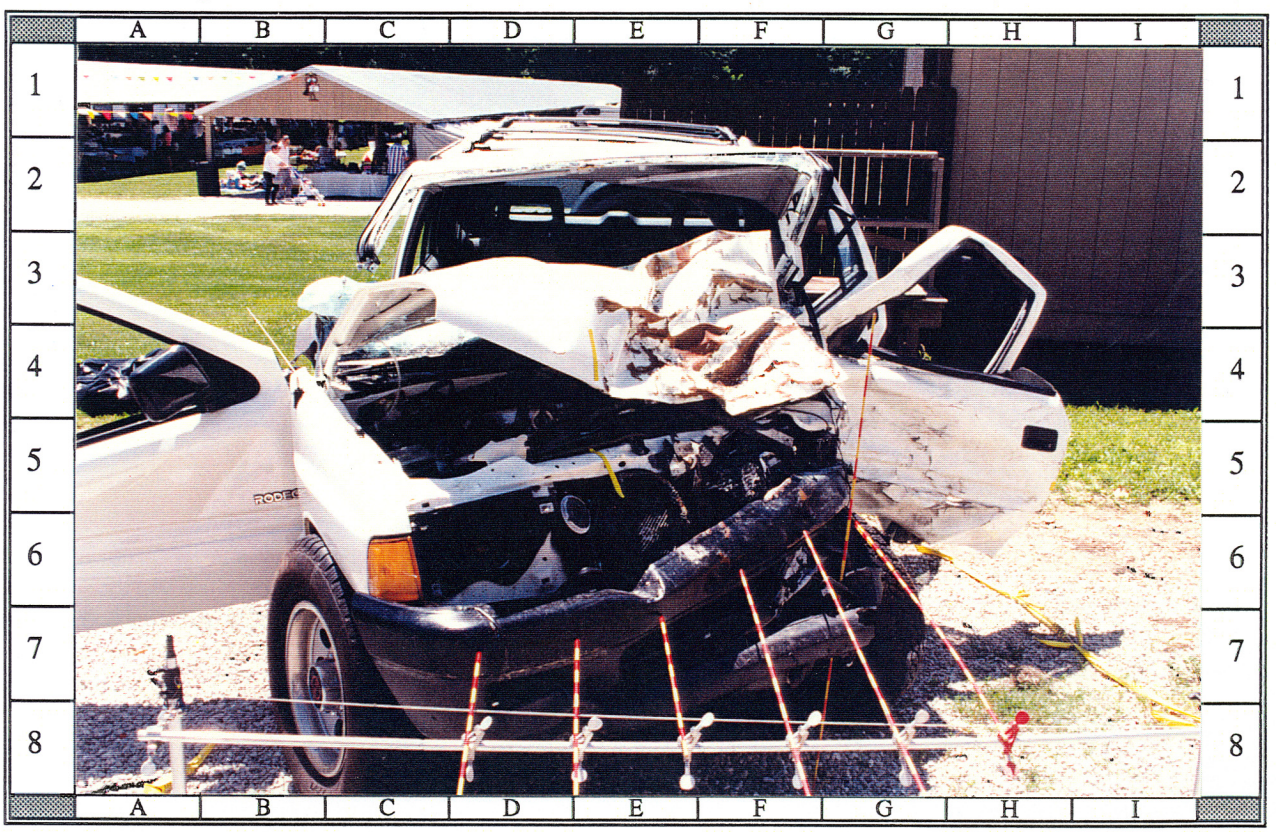
21: Northward view of Vehicle #2's final rest position perpendicular to westbound lane, heading southward; NOTE: rear tires were on the north edge line



22: Case Vehicle's frontal damage viewed from front; NOTE: severe crush to front left half and leftward end shift

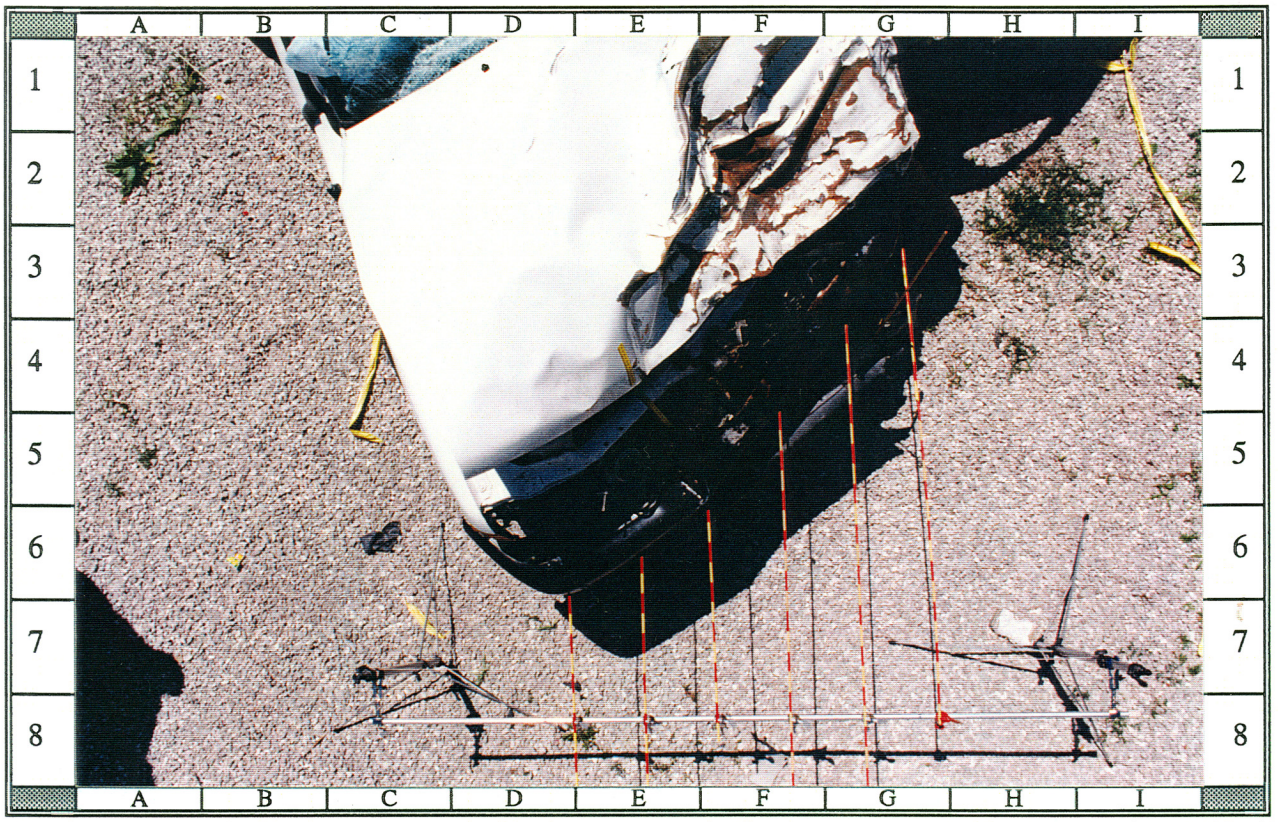


23: Close-up of Case Vehicle's front left damage viewed from approximately 30 degrees left of front



24: Case Vehicle's damaged front with contour gauge present; NOTE: direct damage extends from yellow tape (cells E4--E5) to the left front corner

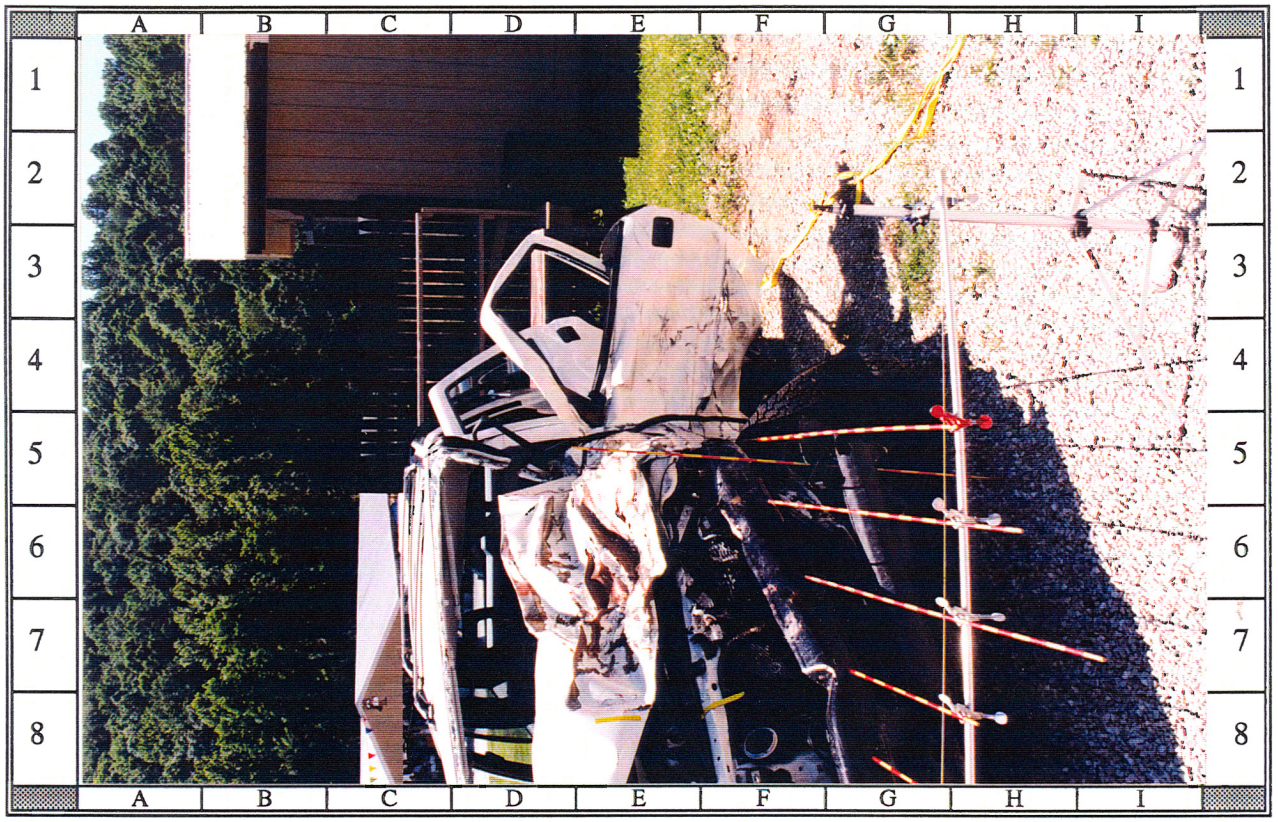
Case Vehicle: 1995 Isuzu Rodeo, 4-Door, AWD, Sport Utility, 5-Passenger, 3.2 L (193 in^3) V-6 MPFI



25: Overhead view of Case Vehicle's front left damage with contour gauge present showing extensive crush to front-left corner and leftward end shift

26: Front overhead view of Case Vehicle's front left damage viewed from ~ 30 degrees left of front; NOTE: direct damage extends to mid-left driver's door

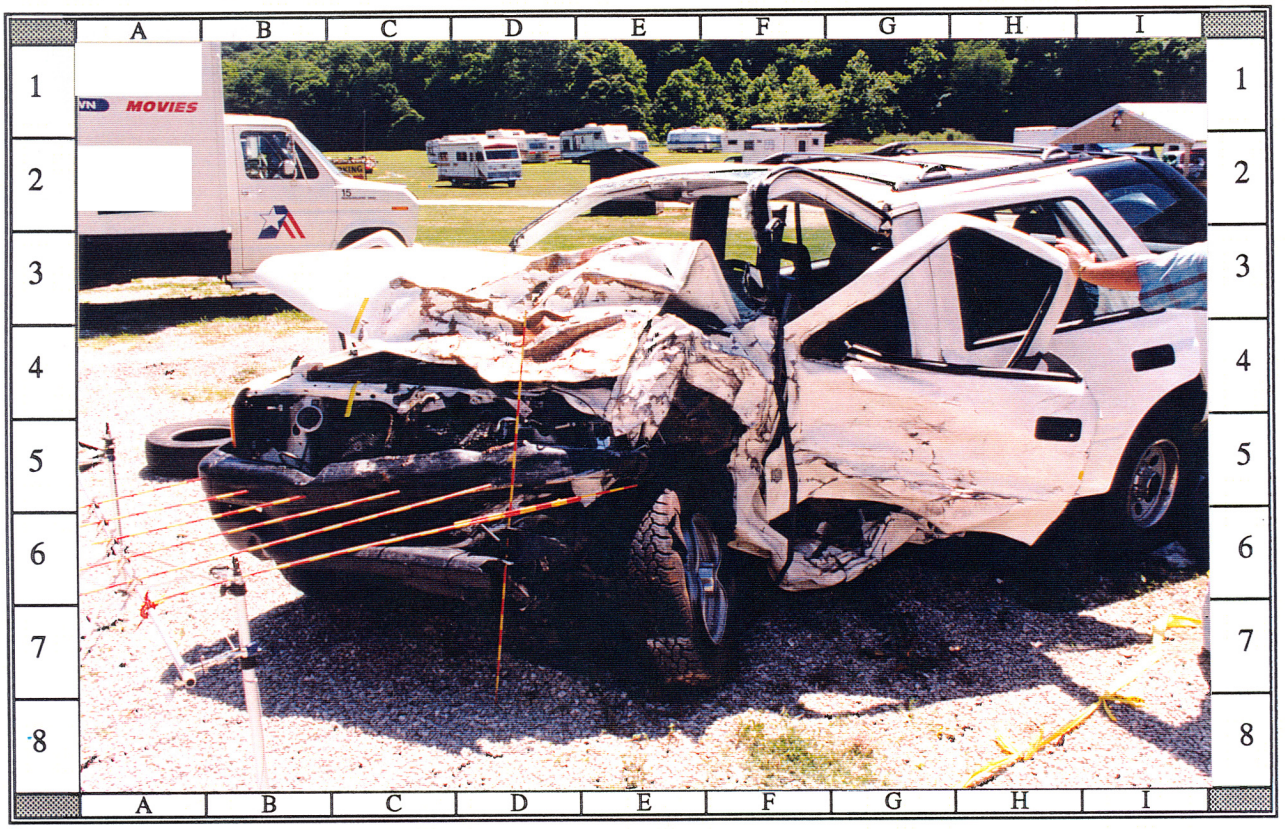
Case Vehicle: 1995 Isuzu Rodeo, 4-Door, AWD, Sport Utility, 5-Passenger, 3.2 L (193 in^3) V-6 MPFI



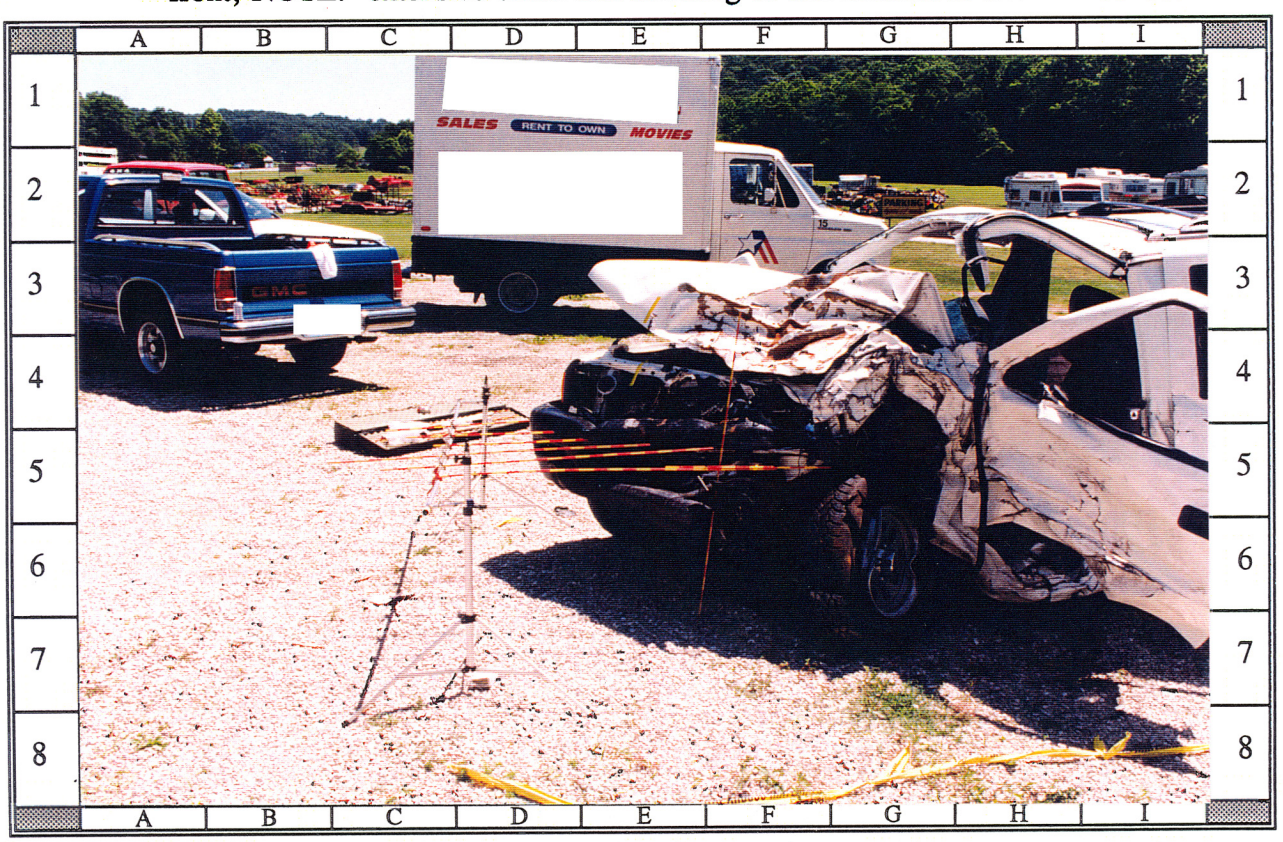
27: Reference line view of Case Vehicle's damaged front and left side viewed from front showing severe front left crush and left front door damage and tire position

28: Case Vehicle's damaged front and left side viewed from approximately 30 degrees left of front with contour gauge present

Case Vehicle: 1995 Isuzu Rodeo, 4-Door, AWD, Sport Utility, 5-Passenger, 3.2 L (193 in^3) V-6 MPFI



29: Case Vehicle's front left damage viewed from approximately 45 degrees left of front; NOTE: extensive crush and buckling of left front door sill



30: Reference line view of Case Vehicle's damaged front viewed from left showing extensive front left crush and direct damage to driver's door and left side rail

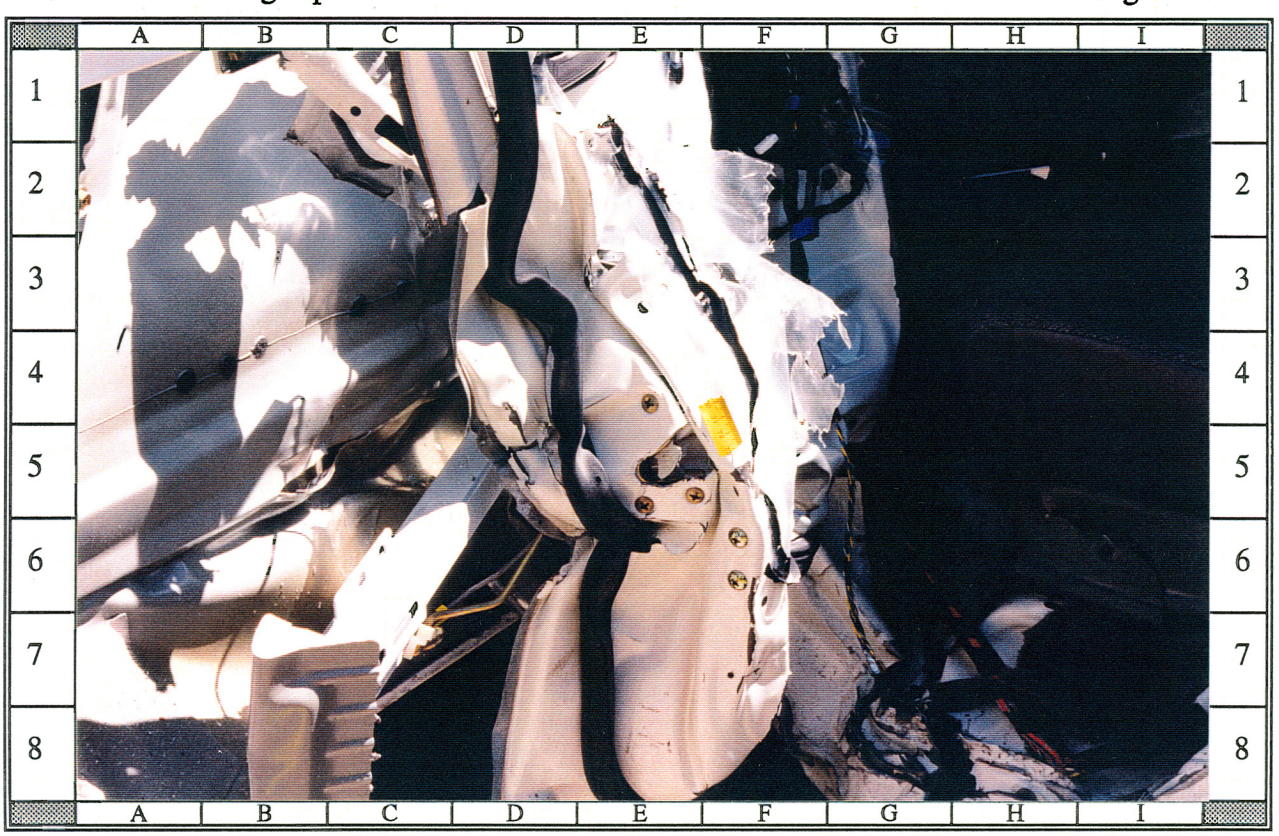
Case Vehicle: 1995 Isuzu Rodeo, 4-Door, AWD, Sport Utility, 5-Passenger, 3.2 L (193 in^3) V-6 MPFI

31: Close-up of Case Vehicle's left front tire and front left bumper corner; NOTE: direct damage to left front door and downward buckling to left front door sill

32: Close-up of Case Vehicle's damaged left front tire and wheel; NOTE: front wheel and rim damage from vehicle #2, rear damage from bottom of fire wall

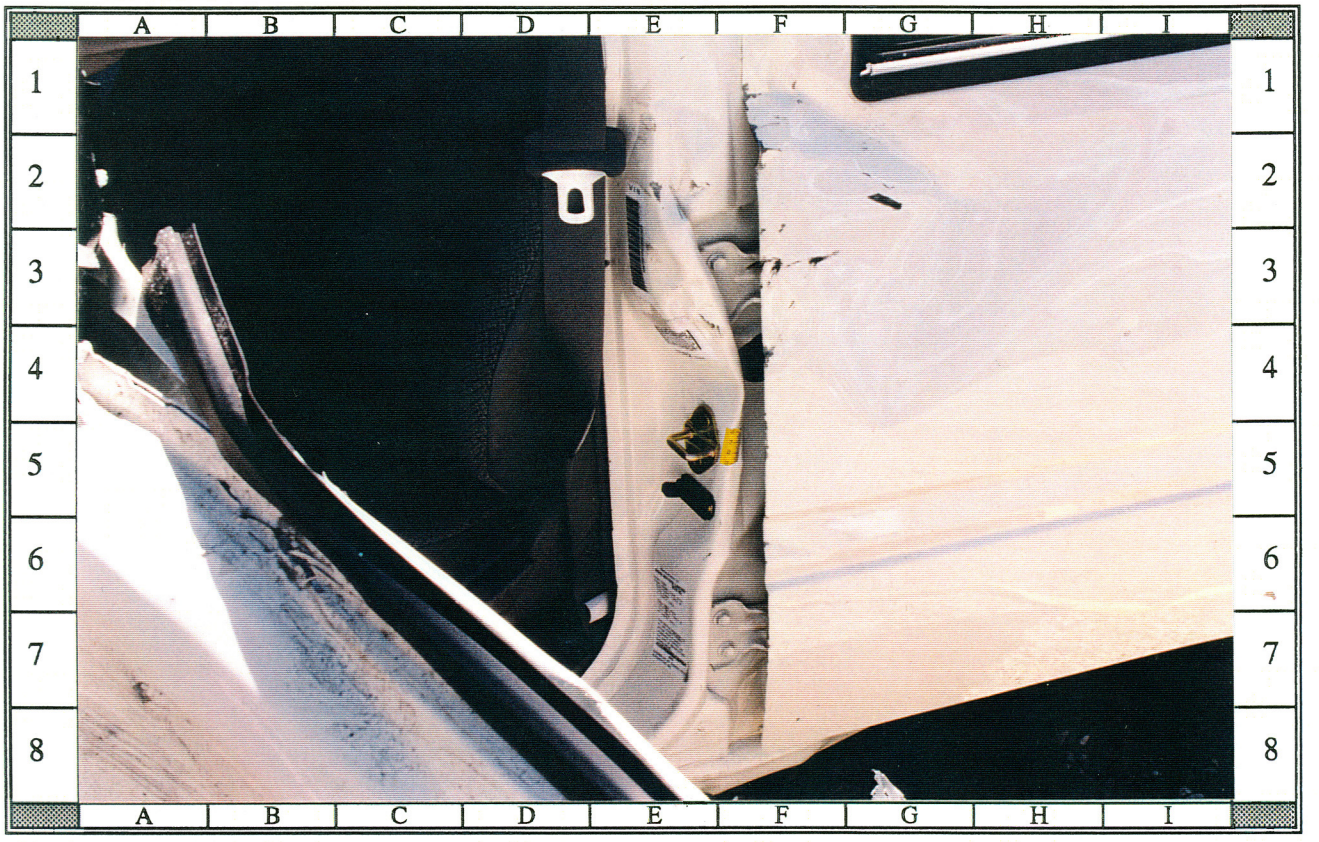
Case Vehicle: 1995 Isuzu Rodeo, 4-Door, AWD, Sport Utility, 5-Passenger, 3.2 L (193 in^3) V-6 MPFI

33: Case Vehicle's driver door viewed from approximately 45 degrees left of back showing separation of outer and inner door surfaces and extrication damage



34: Close-up of rear surface of Case Vehicle's driver door; NOTE: extrication tool-induced damage and separation of outer and inner door surfaces

Case Vehicle: 1995 Isuzu Rodeo, 4-Door, AWD, Sport Utility, 5-Passenger, 3.2 L (193 in^3) V-6 MPFI

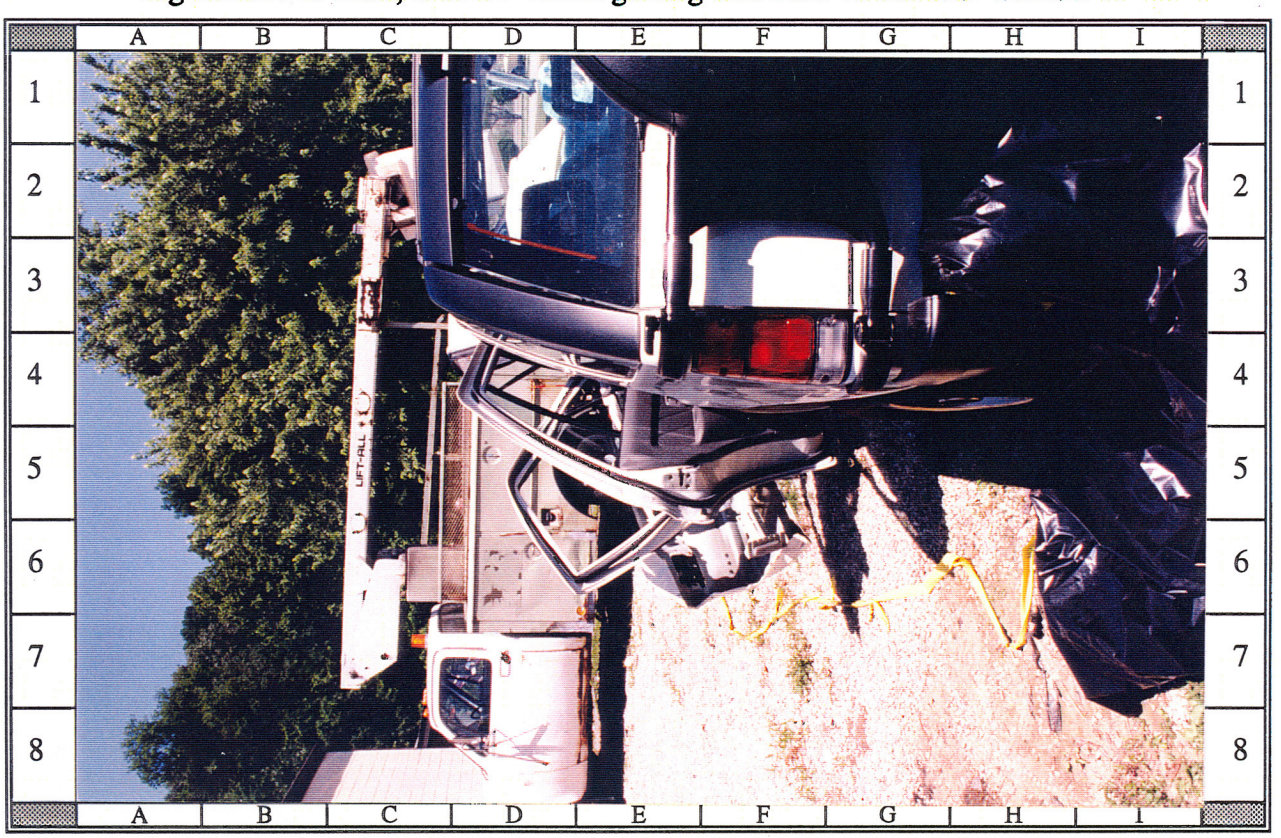


35: Latch plate for Case Vehicle's driver door showing lack of crash-induced deformation (at yellow tape) and extrication marks on left rear door's surface

36: Close-up of latch plate for Case Vehicle's driver door; NOTE: no evidence of crash-induced deformation on latch plate

Case Vehicle: 1995 Isuzu Rodeo, 4-Door, AWD, Sport Utility, 5-Passenger, 3.2 L (193 in^3) V-6 MPFI

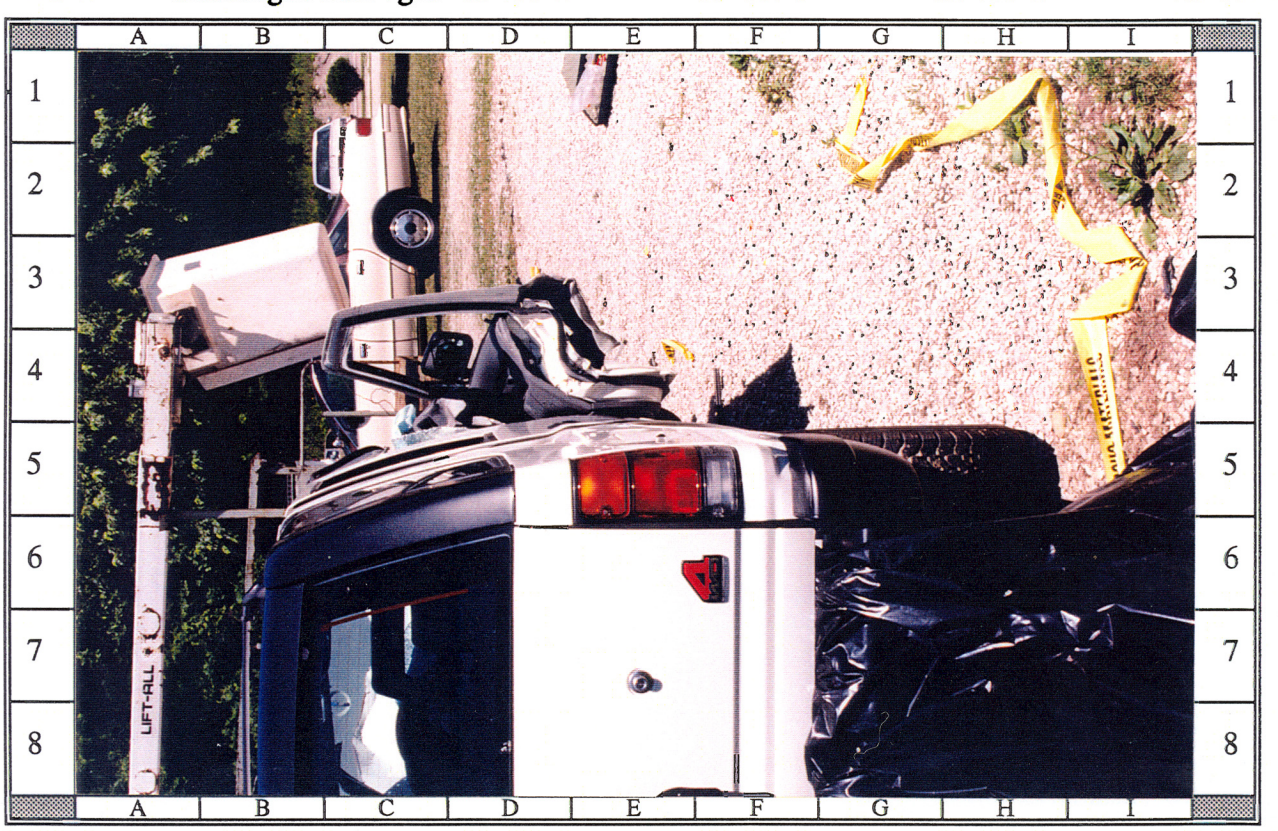
37: Case vehicle's left side and undamaged rear viewed from approximately 45 degrees left of back; NOTE: intact glazing rearward of left rear window



38: Reference line view of Case Vehicle's left side from back; NOTE: exterior sheet metal pulled away from the left front door panel

Case Vehicle: 1995 Isuzu Rodeo, 4-Door, AWD, Sport Utility, 5-Passenger, 3.2 L (193 in^3) V-6 MPFI

39: Case Vehicle's undamaged back plane showing four-wheel drive indicator and undamaged backlight



40: Reference line view of Case Vehicle's right side from back; NOTE: extrication tool-induced deformation to right front passenger door

Case Vehicle: 1995 Isuzu Rodeo, 4-Door, AWD, Sport Utility, 5-Passenger, 3.2 L (193 in^3) V-6 MPFI

41: Case Vehicle's right side and undamaged back viewed from approximately 45 degrees right of back; NOTE: intact glazing rearward of right front window

42: Close-up of Case Vehicle's lower right "B"-pillar; NOTE: extrication tool-induced damage to forward edge of right rear door and the lower "B"-pillar

Case Vehicle: 1995 Isuzu Rodeo, 4-Door, AWD, Sport Utility, 5-Passenger, 3.2 L (193 in^3) V-6 MPFI

43: Reference line view of Case Vehicle's damaged front viewed from right; NOTE: leftward front end shift exposes lower right "A"-pillar area

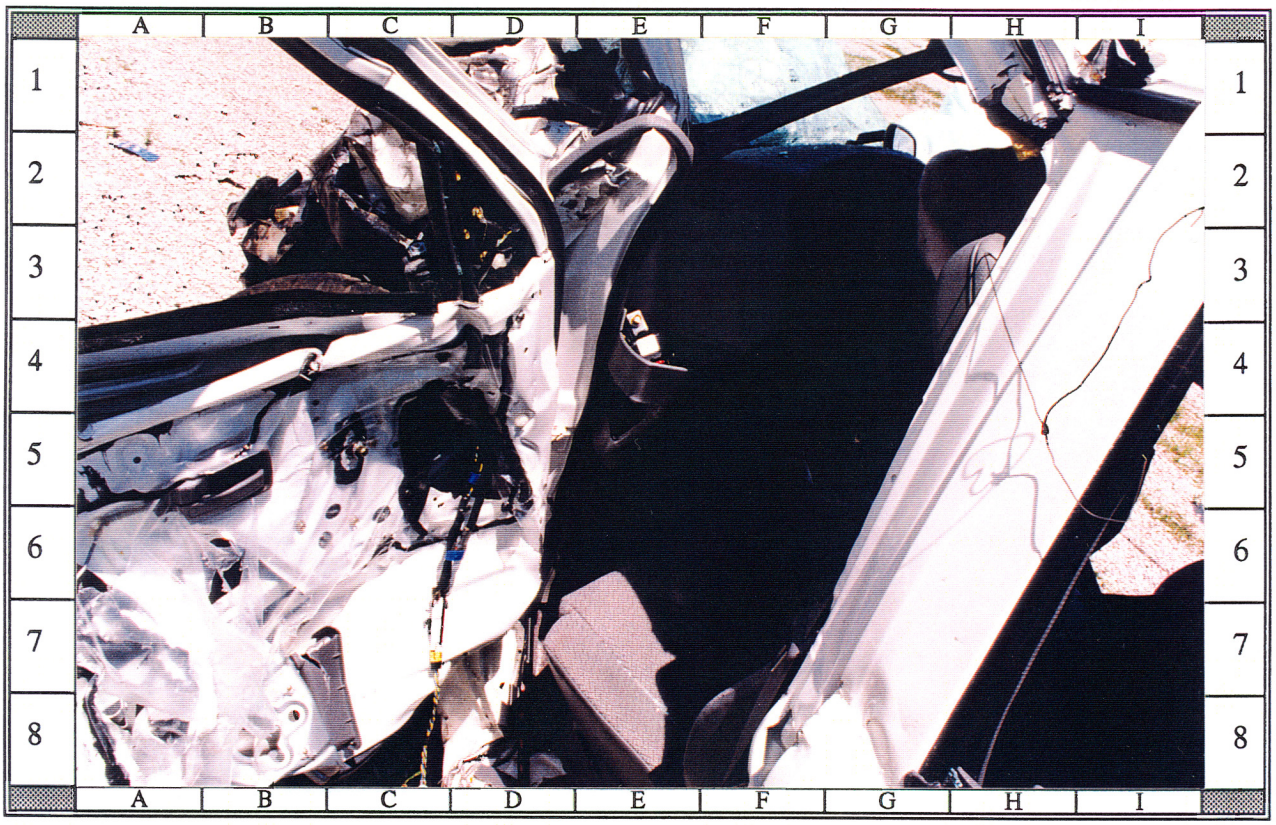
44: Case Vehicle's right side viewed from approximately 60 degrees right of front showing extrication tool-induced damage to right "A"-pillar at beltline

Case Vehicle: 1995 Isuzu Rodeo, 4-Door, AWD, Sport Utility, 5-Passenger, 3.2 L (193 in^3) V-6 MPFI

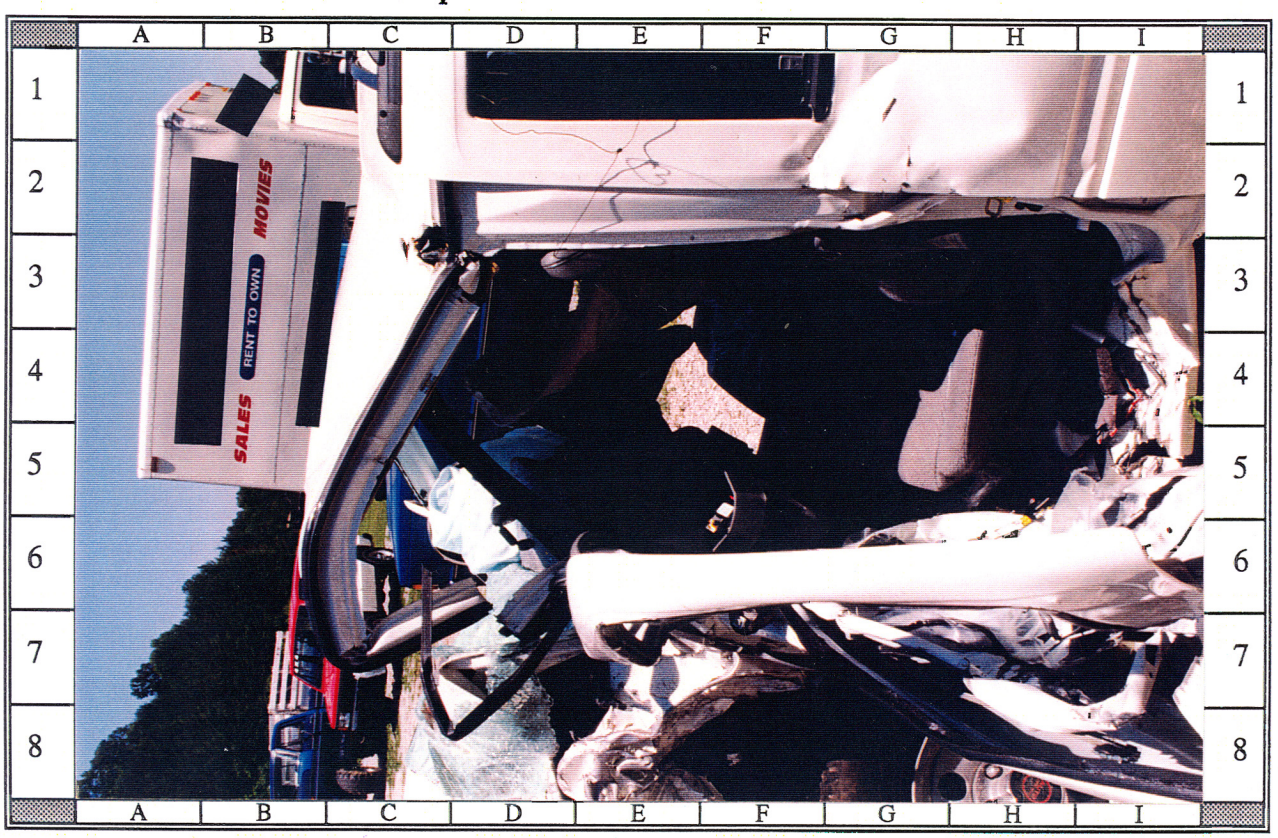
45: Case Vehicle's frontal damage with contour gauge present viewed from approximately 15 degrees right of front showing pronounced leftward front end shift

46: Reference line view of Case Vehicle's damaged front and right side viewed from front showing induced damage to right front fender and leftward front end shift

Case Vehicle: 1995 Isuzu Rodeo, 4-Door, AWD, Sport Utility, 5-Passenger, 3.2 L (193 in^3) V-6 MPFI



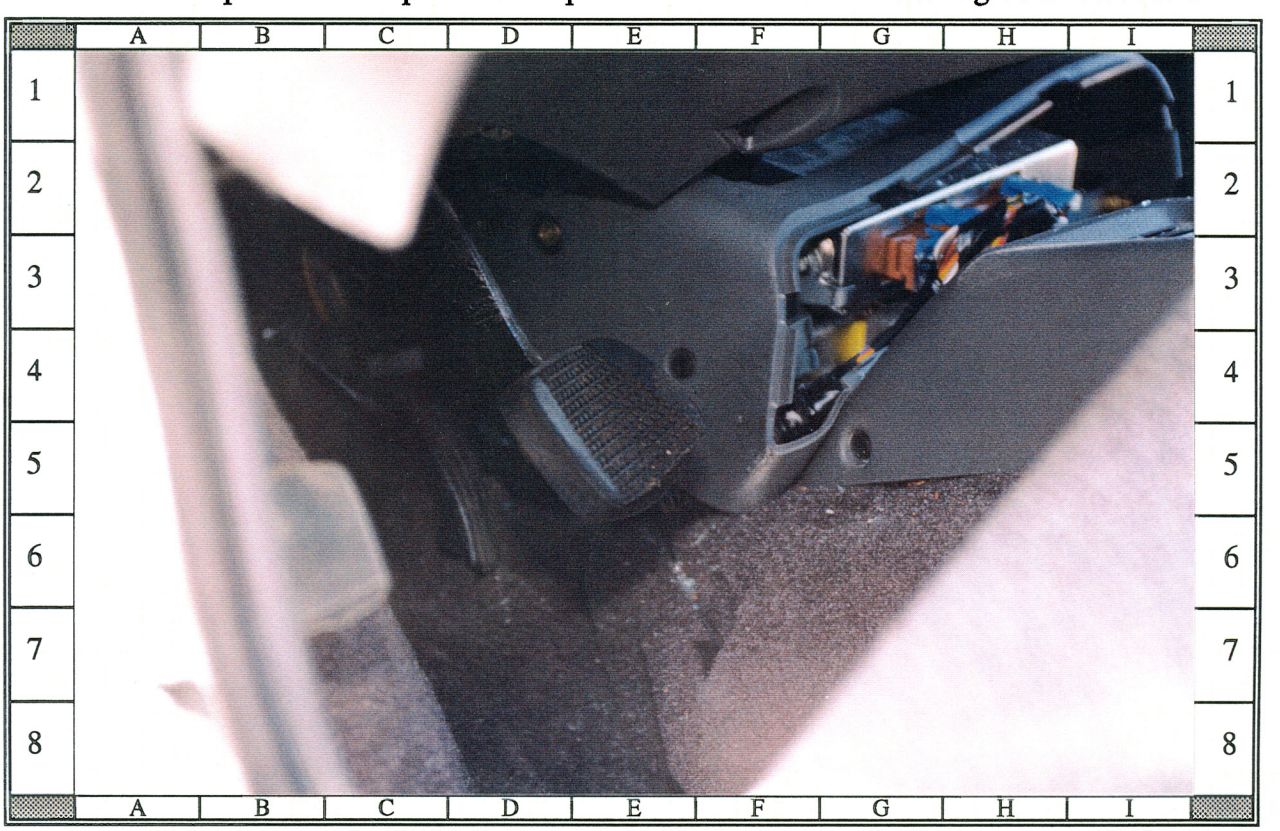
47: Residue of interior surface of Case Vehicle's driver door and front seating area; NOTE: leftward displacement of driver's seat



48: Case Vehicle's front seating area viewed from outside driver's door; NOTE: deformed left "A"-pillar and unused male end of safety belt (cells F3--G3)

Case Vehicle: 1995 Isuzu Rodeo, 4-Door, AWD, Sport Utility, 5-Passenger, 3.2 L (193 in^3) V-6 MPFI

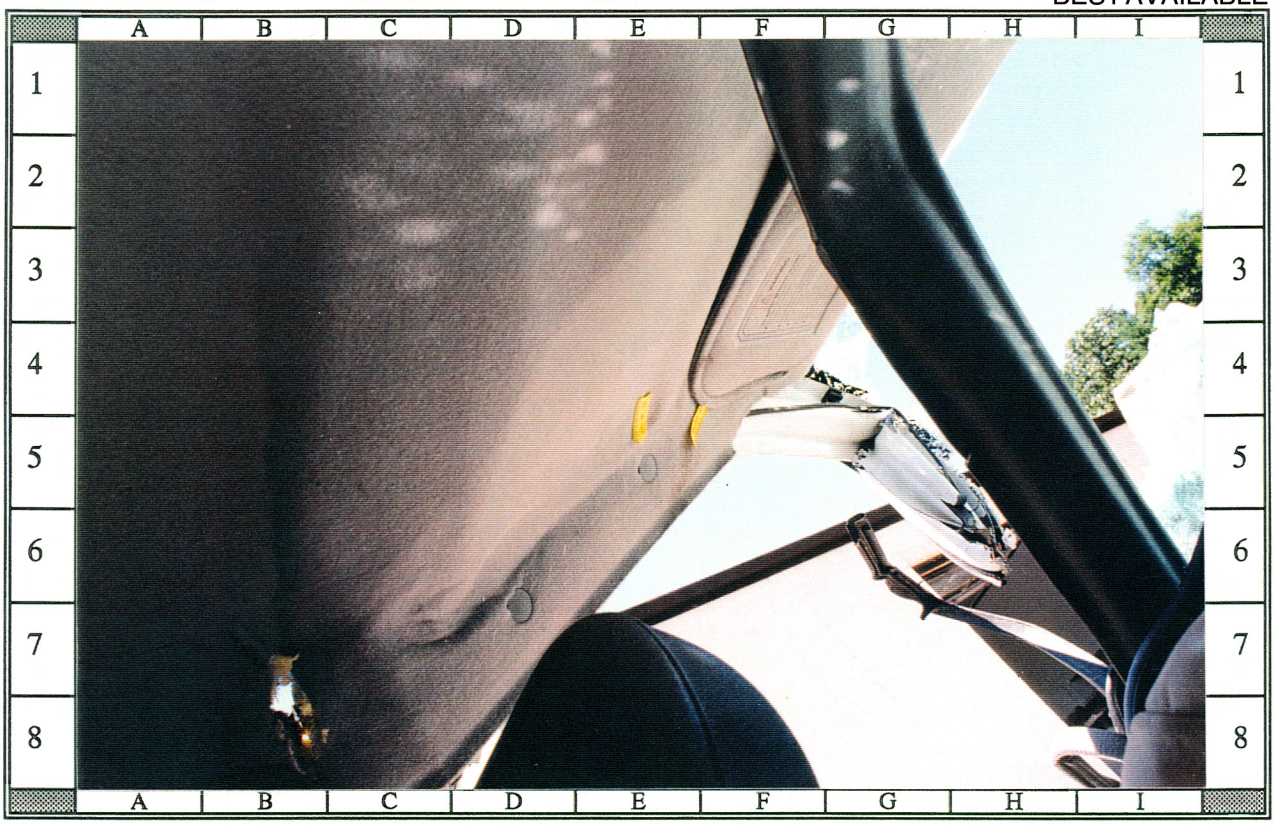
49: Close-up of Case Vehicle's left lower dash showing dash's rearward displacement and probable occupant contact points to lower dash and steering column



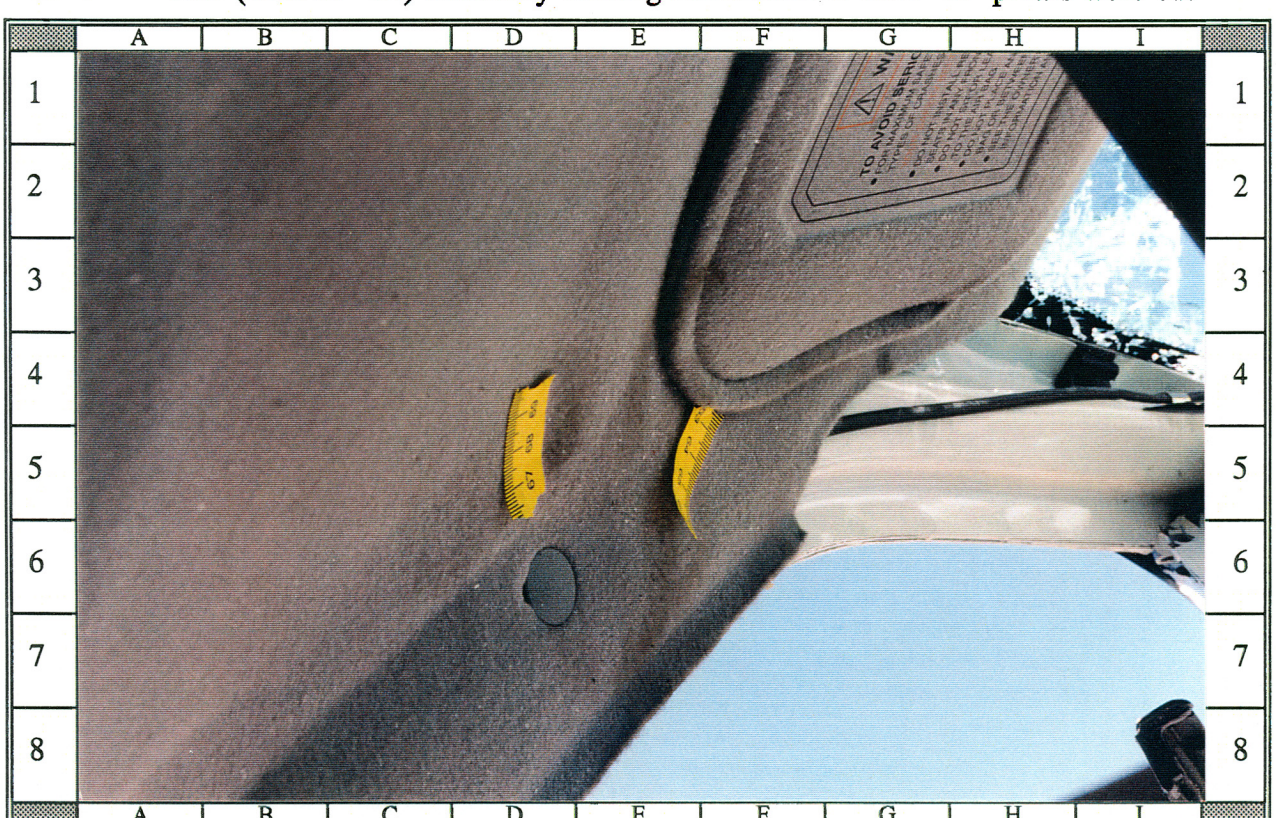
50: Close-up of Case Vehicle's lower center dash showing foot pattern on brake pedal; NOTE: rearward displacement of, and deformation to, the radio

Case Vehicle: 1995 Isuzu Rodeo, 4-Door, AWD, Sport Utility, 5-Passenger, 3.2 L (193 in^3) V-6 MPFI

BEST AVAILABLE

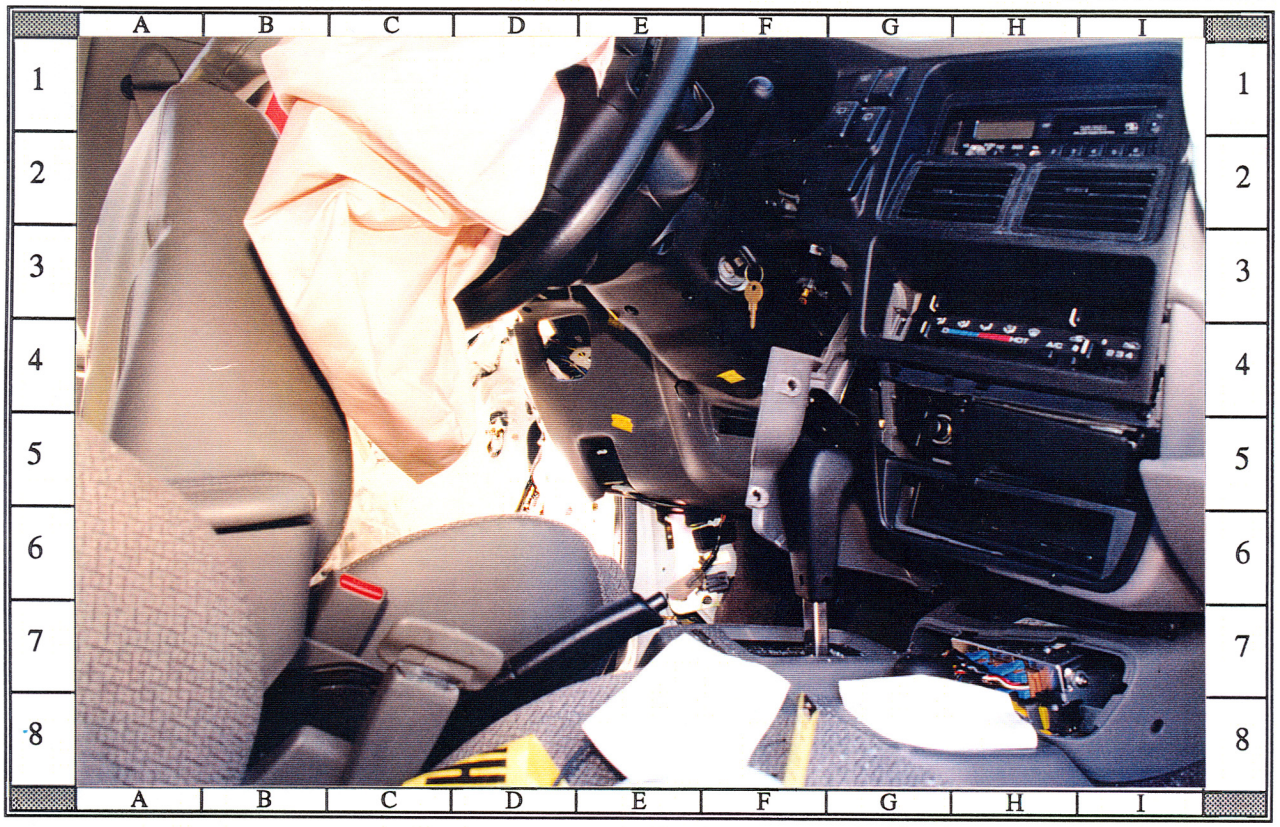


51: Case Vehicle's left upper "A"-pillar, roof header, and roof side rail; NOTE: roof hole (cells B7--B8) caused by bending roof rearward after "A"-pillars were cut

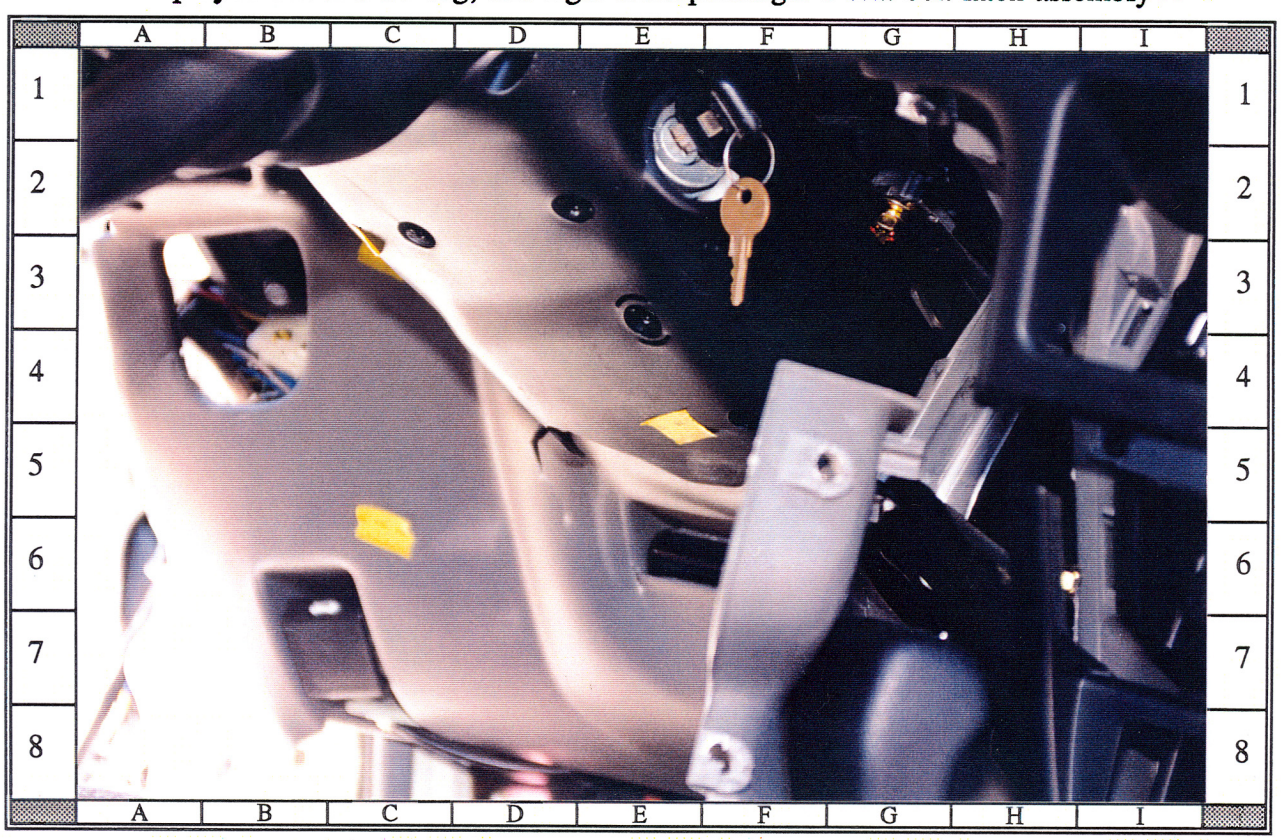


52: Close-up of Case Vehicle's left front roof corner and left sunvisor showing probable occupant contact points

Case Vehicle: 1995 Isuzu Rodeo, 4-Door, AWD, Sport Utility, 5-Passenger, 3.2 L (193 in^3) V-6 MPFI



53: Close-up of Case Vehicle's lower left and center dash showing intrusion, deployed driver's air bag, and right front passenger's seat belt latch assembly



54: Close-up of Case Vehicle's left lower dash and bottom of steering column showing dash intrusion and probable occupant contacts

Case Vehicle: 1995 Isuzu Rodeo, 4-Door, AWD, Sport Utility, 5-Passenger, 3.2 L (193 in^3) V-6 MPFI

BEST AVAILABLE

55: Case Vehicle's driver seating area viewed from the right rear; NOTE: front outboard 3-point safety belts, adjustable head restraints, and leftward tilted seatback

56: Case Vehicle's deployed driver air bag showing possible occupant contact point in lower center of air bag; NOTE: leftward tilting driver's seat

Case Vehicle: 1995 Isuzu Rodeo, 4-Door, AWD, Sport Utility, 5-Passenger, 3.2 L (193 in^3) V-6 MPFI

57: Close-up of Case Vehicle's deployed driver air bag showing a possible occupant contact point (i.e., unknown substance) in lower center of air bag

58: Case Vehicle's driver seating area viewed from right showing deployed driver side air bag; NOTE: unknown substance on air bag near right seam

Case Vehicle: 1995 Isuzu Rodeo, 4-Door, AWD, Sport Utility, 5-Passenger, 3.2 L (193 in^3) V-6 MPFI

BEST AVAILABLE

59: Close-up of Case Vehicle's deployed driver side air bag showing unknown substance near right seam

60: Case Vehicle's driver seating area viewed from right showing deployed driver side air bag; NOTE: unknown substance on right backside of air bag

Case Vehicle: 1995 Isuzu Rodeo, 4-Door, AWD, Sport Utility, 5-Passenger, 3.2 L (193 in^3) V-6 MPFI

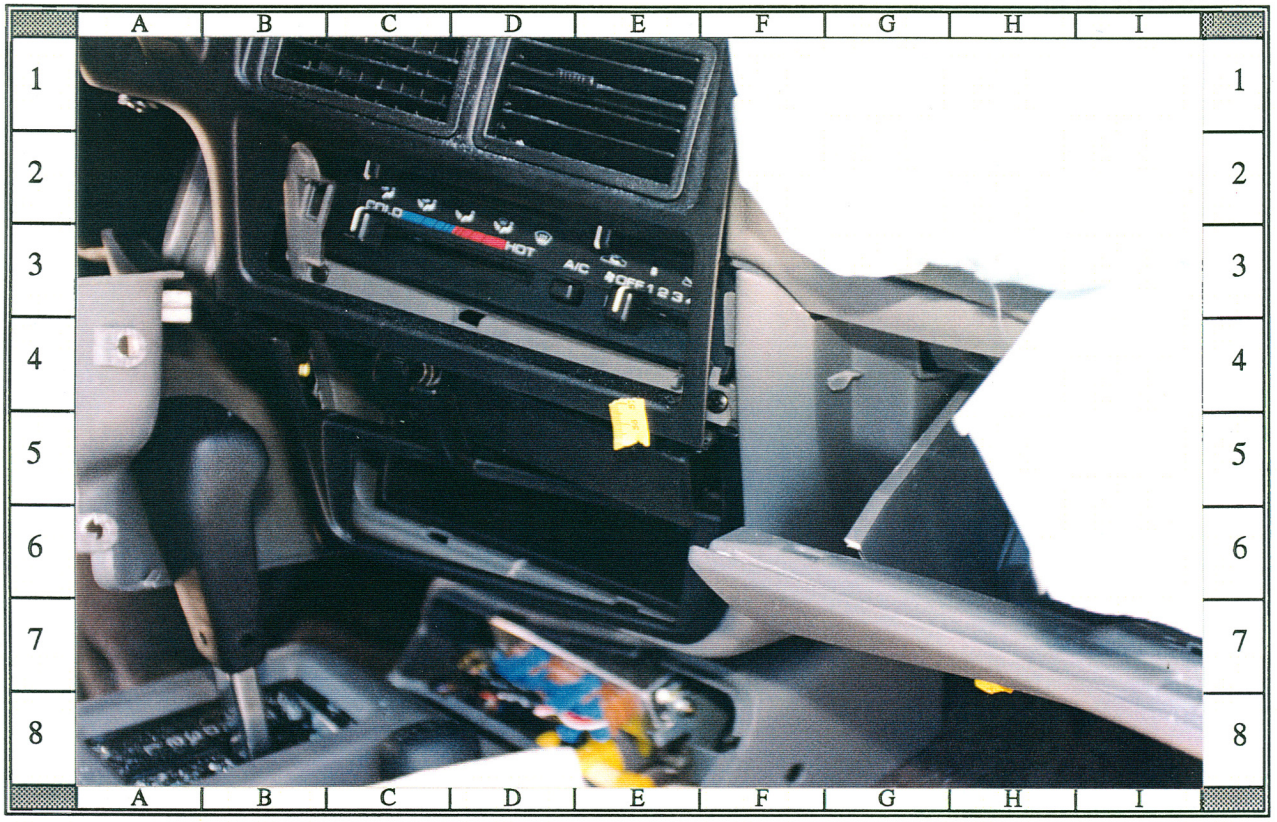
BEST AVAILABLE

61: Close-up of Case Vehicle's deployed driver air bag showing an unknown substance on lower right backside of deployed air bag

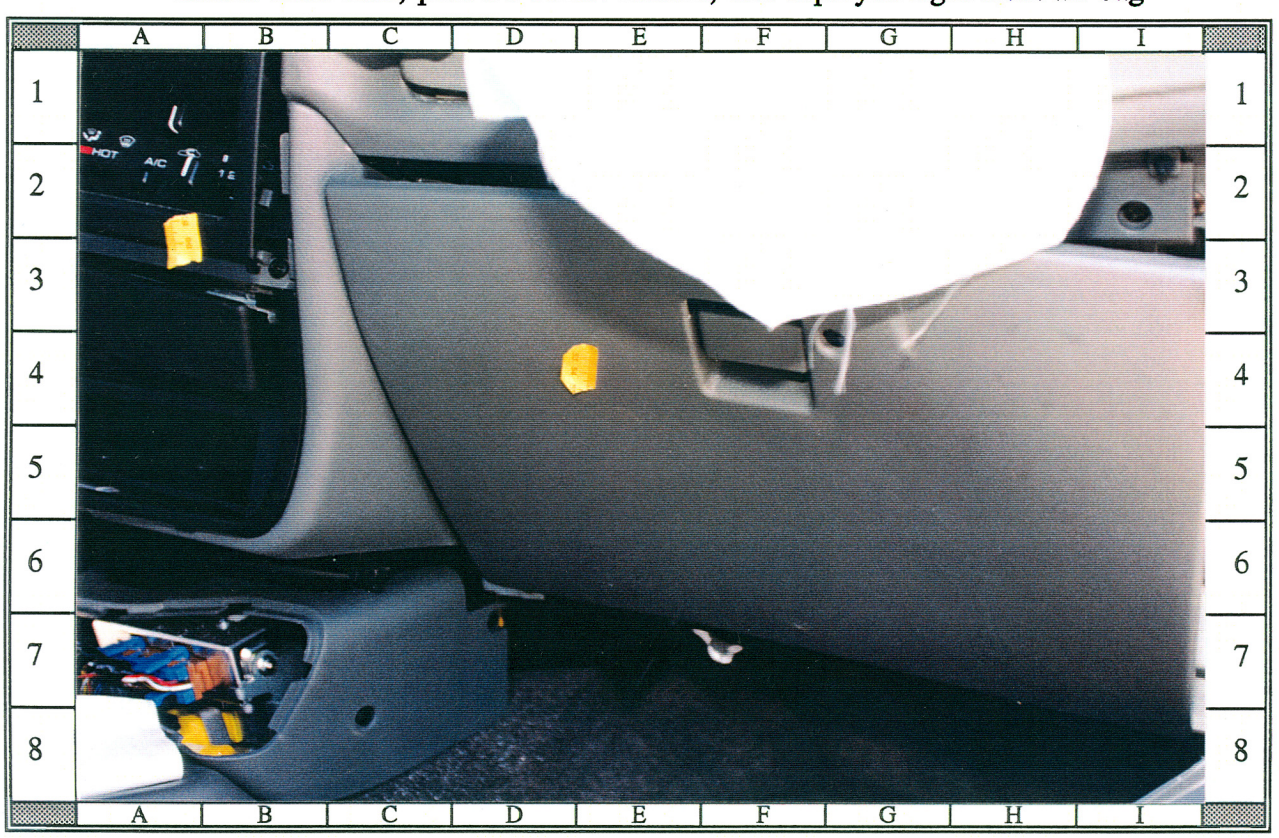
62: Case Vehicle's right front seating area viewed from left rear showing deployed air bags; NOTE: no contact evidence to right header, sunvisor, or side rail areas

Case Vehicle: 1995 Isuzu Rodeo, 4-Door, AWD, Sport Utility, 5-Passenger, 3.2 L (193 in^3) V-6 MPFI

BEST AVAILABLE



63: Close-up of Case Vehicle's center dash area showing displaced plastic covering, broken radio face, possible center contact, and deployed right front air bag



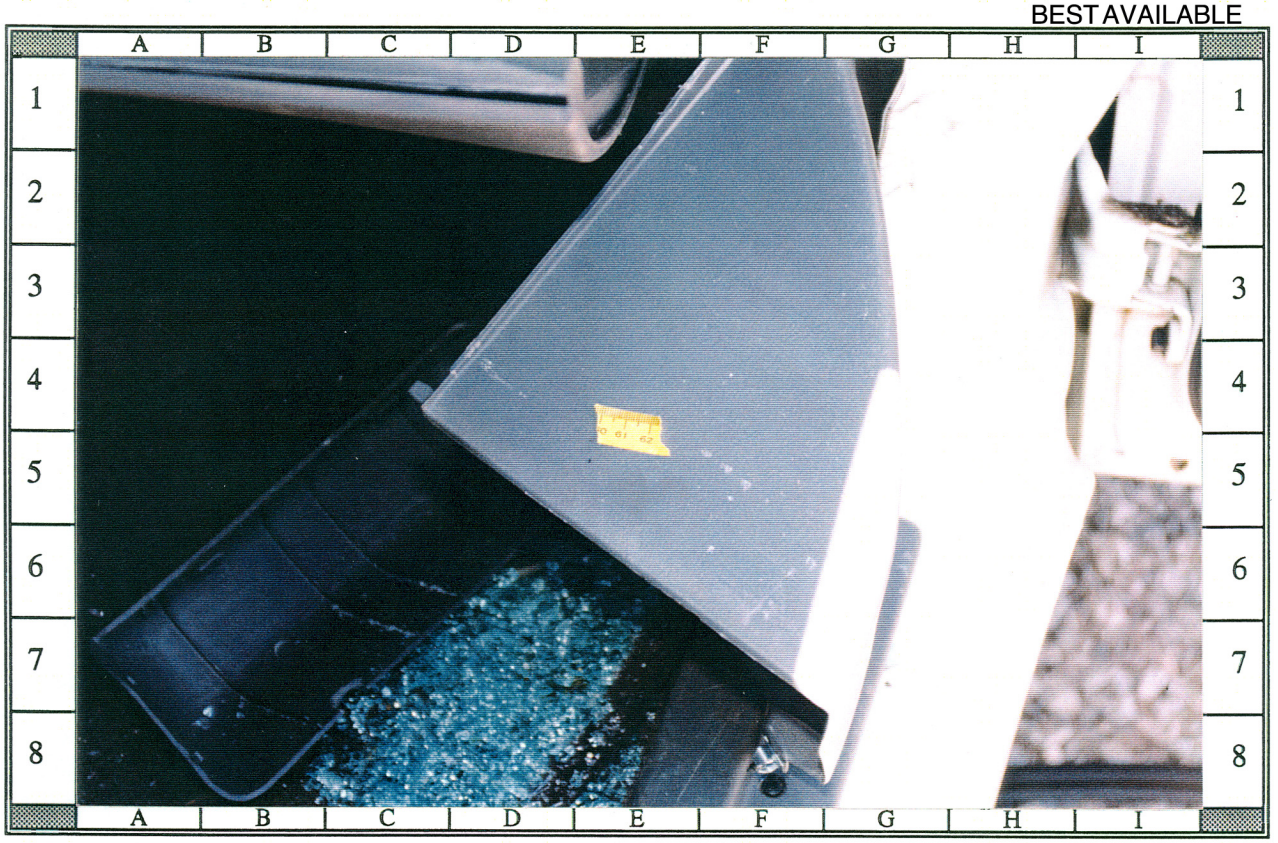
64: Close-up of Case Vehicle's glove compartment door showing possible contact point and deployed right front passenger air bag

Case Vehicle: 1995 Isuzu Rodeo, 4-Door, AWD, Sport Utility, 5-Passenger, 3.2 L (193 in^3) V-6 MPFI

65: Case Vehicle's front seating area viewed through disintegrated right front glazing; NOTE: windshield collapsed over passenger's air bag after extrication

66: Case Vehicle's front seating area viewed through right front door showing extensive intrusion into driver's area and damage to right front dash and kick panel

Case Vehicle: 1995 Isuzu Rodeo, 4-Door, AWD, Sport Utility, 5-Passenger, 3.2 L (193 in^3) V-6 MPFI



67: Close-up of Case Vehicle's right kick panel showing possible right front passenger contact

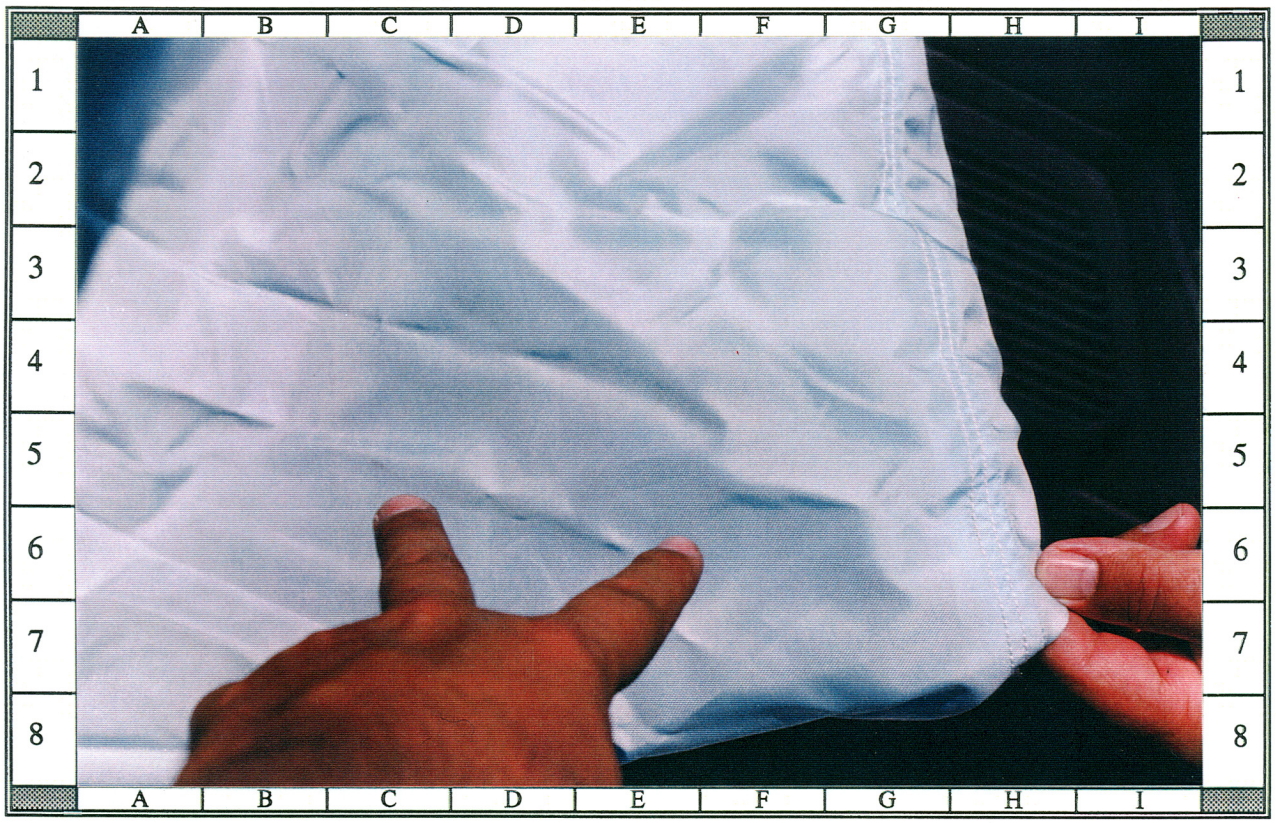
68: Interior surface of Case Vehicle's right front door showing no contacts; NOTE: deployed passenger air bag, cut "A"-pillar, and windshield folded onto hood

Case Vehicle: 1995 Isuzu Rodeo, 4-Door, AWD, Sport Utility, 5-Passenger, 3.2 L (193 in^3) V-6 MPFI

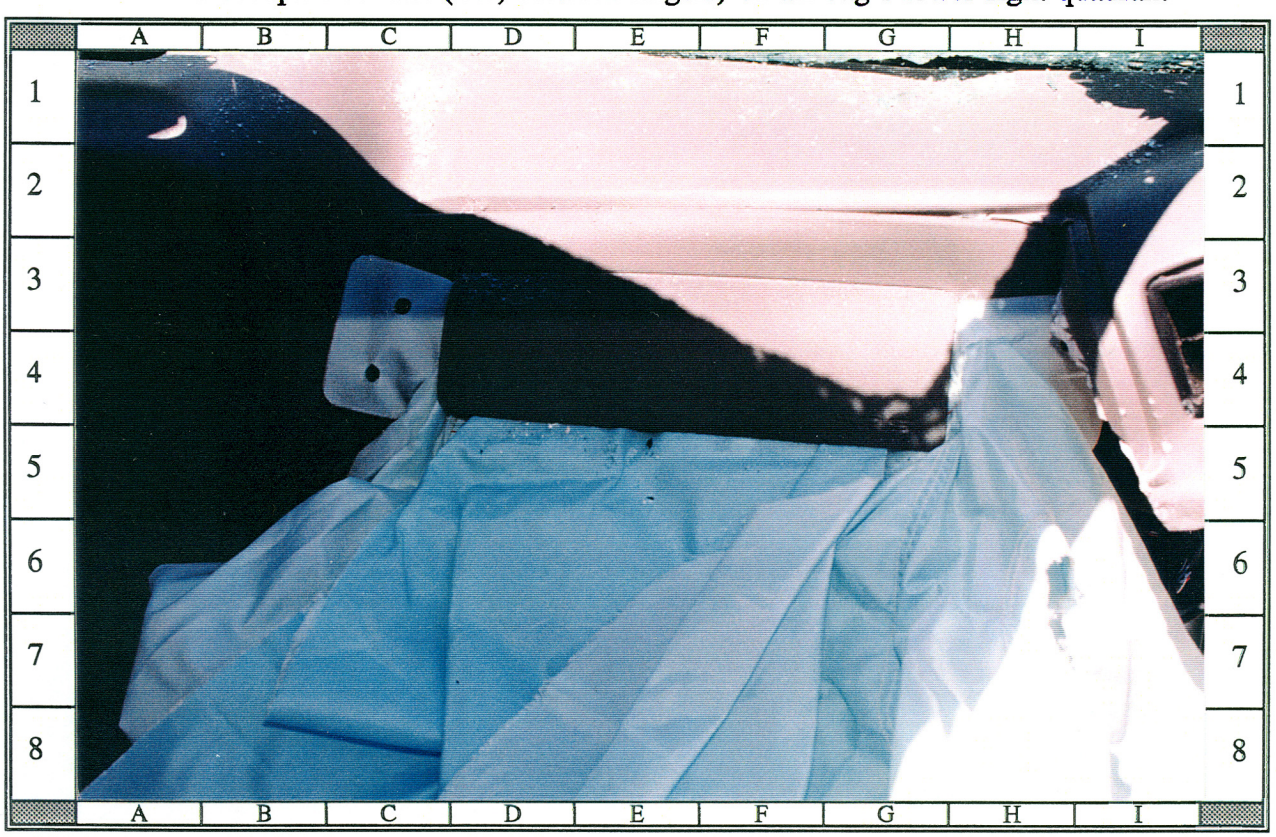
69: Case Vehicle's right front seating area viewed from ~ 60 degrees back of right showing deployed air bag and dash damage; NOTE: extrication damage

70: Close-up of Case Vehicle's deployed right front passenger air bag showing possible occupant contact on air bag's lower left quadrant

Case Vehicle: 1995 Isuzu Rodeo, 4-Door, AWD, Sport Utility, 5-Passenger, 3.2 L (193 in^3) V-6 MPFI



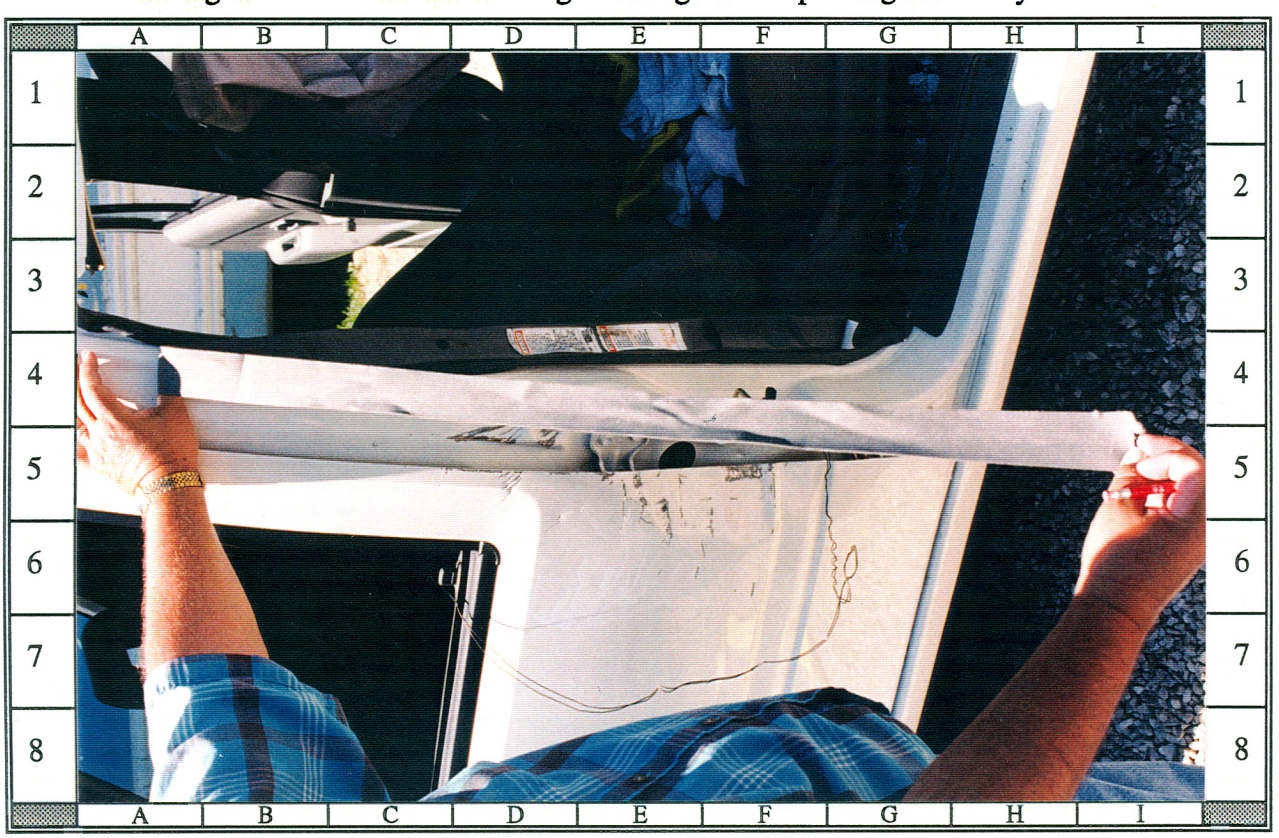
71: Close-up of Case Vehicle's deployed right front passenger air bag showing possible occupant contact (i.e., between fingers) on air bag's lower right quadrant



72: Close-up of top cover flap from Case Vehicle's right front air bag module; NOTE: no contact evidence on cover flap and tear to right dash (cells H2--I5)

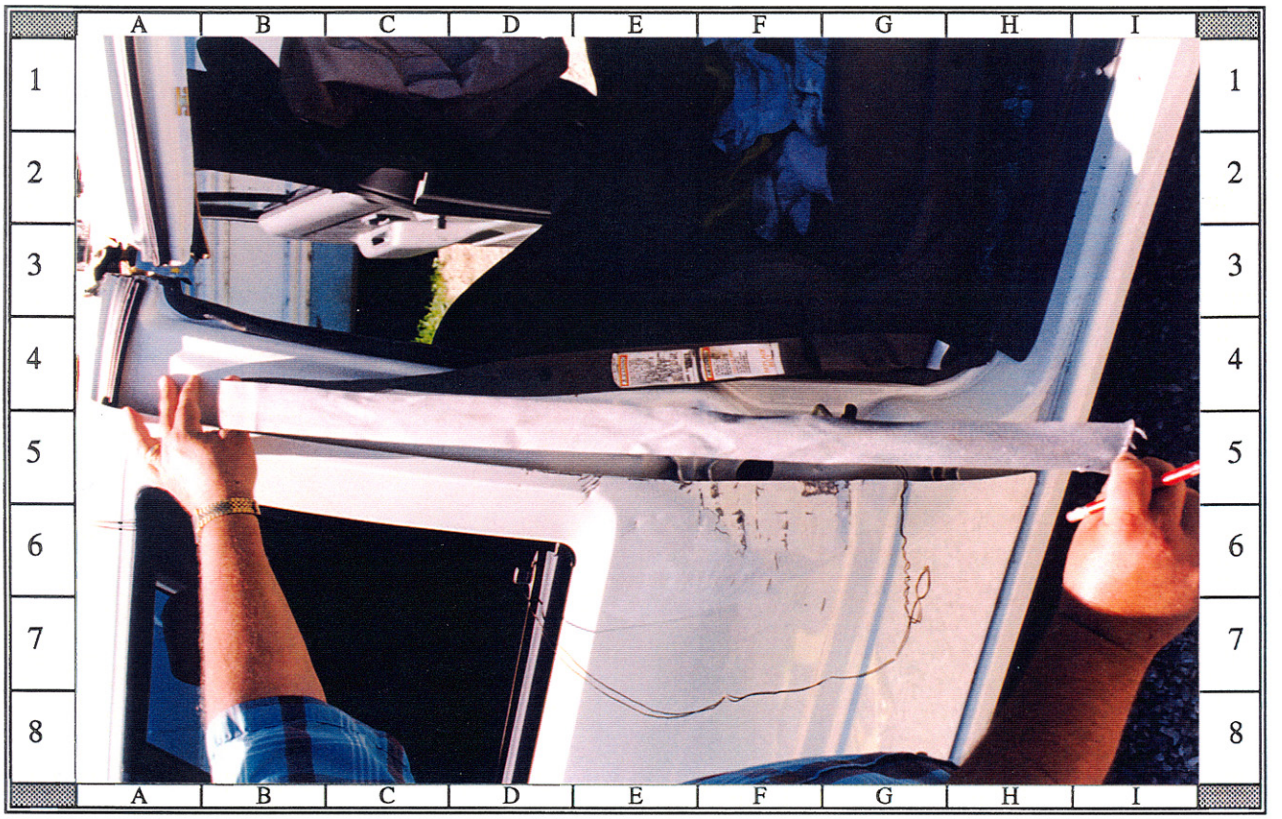
Case Vehicle: 1995 Isuzu Rodeo, 4-Door, AWD, Sport Utility, 5-Passenger, 3.2 L (193 in^3) V-6 MPFI

73: Close-up of Case Vehicle's right front "D"-ring on right "B"-pillar; NOTE: "D"-ring shows evidence of loading from right front passenger's safety belt

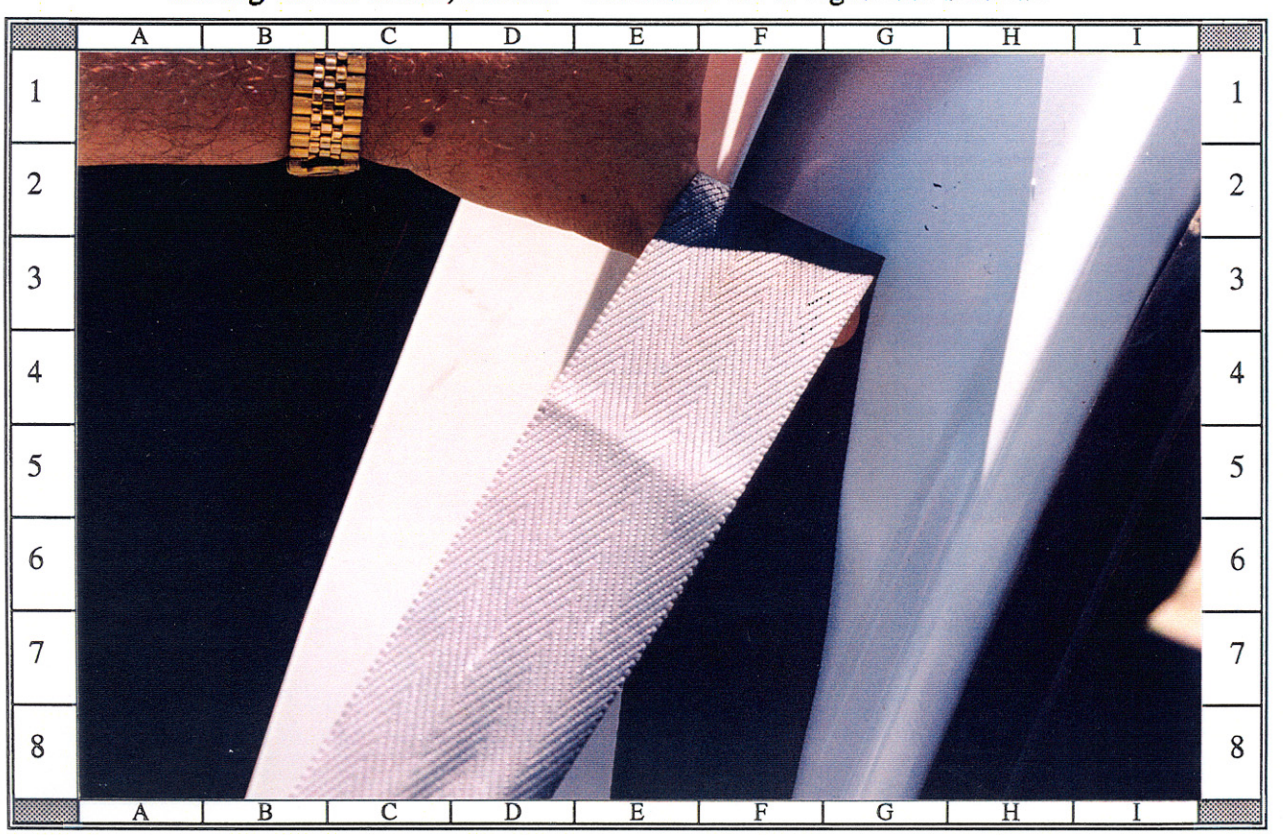


74: Underneath side of Case Vehicle's right front safety belt showing occupant loading stretch marks; NOTE: belt cut (cells I4--I5) by EMTs to enable extrication

Case Vehicle: 1995 Isuzu Rodeo, 4-Door, AWD, Sport Utility, 5-Passenger, 3.2 L (193 in^3) V-6 MPFI

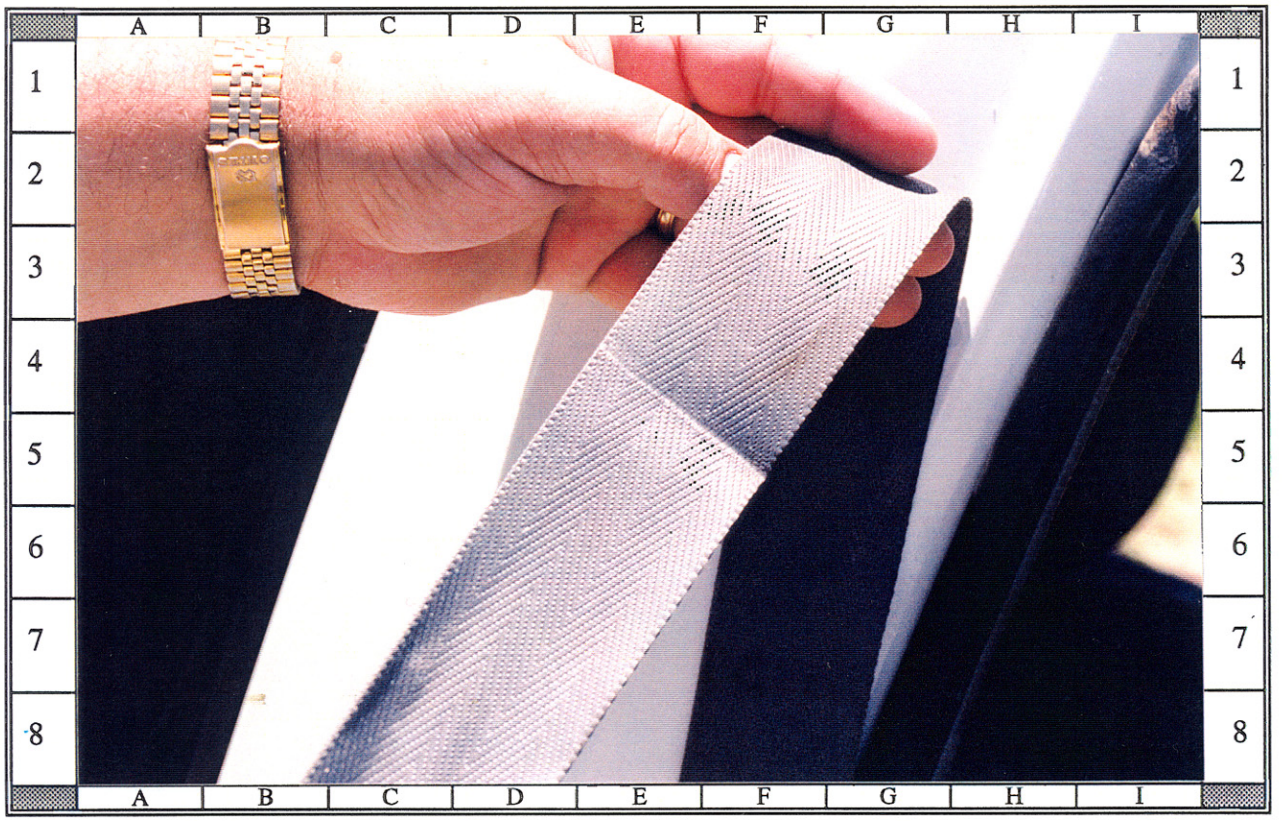


75: Top (cells B4--B5) side of Case Vehicle's right front safety belt showing occupant loading stretch marks; NOTE: extrication cut to right roof side rail



76: Close-up of top side of Case Vehicle's right front safety belt showing occupant loading crease from "D"-ring

Case Vehicle: 1995 Isuzu Rodeo, 4-Door, AWD, Sport Utility, 5-Passenger, 3.2 L (193 in^3) V-6 MPFI



77: Close-up of underneath side of Case Vehicle's right front safety belt showing occupant loading crease from "D"-ring

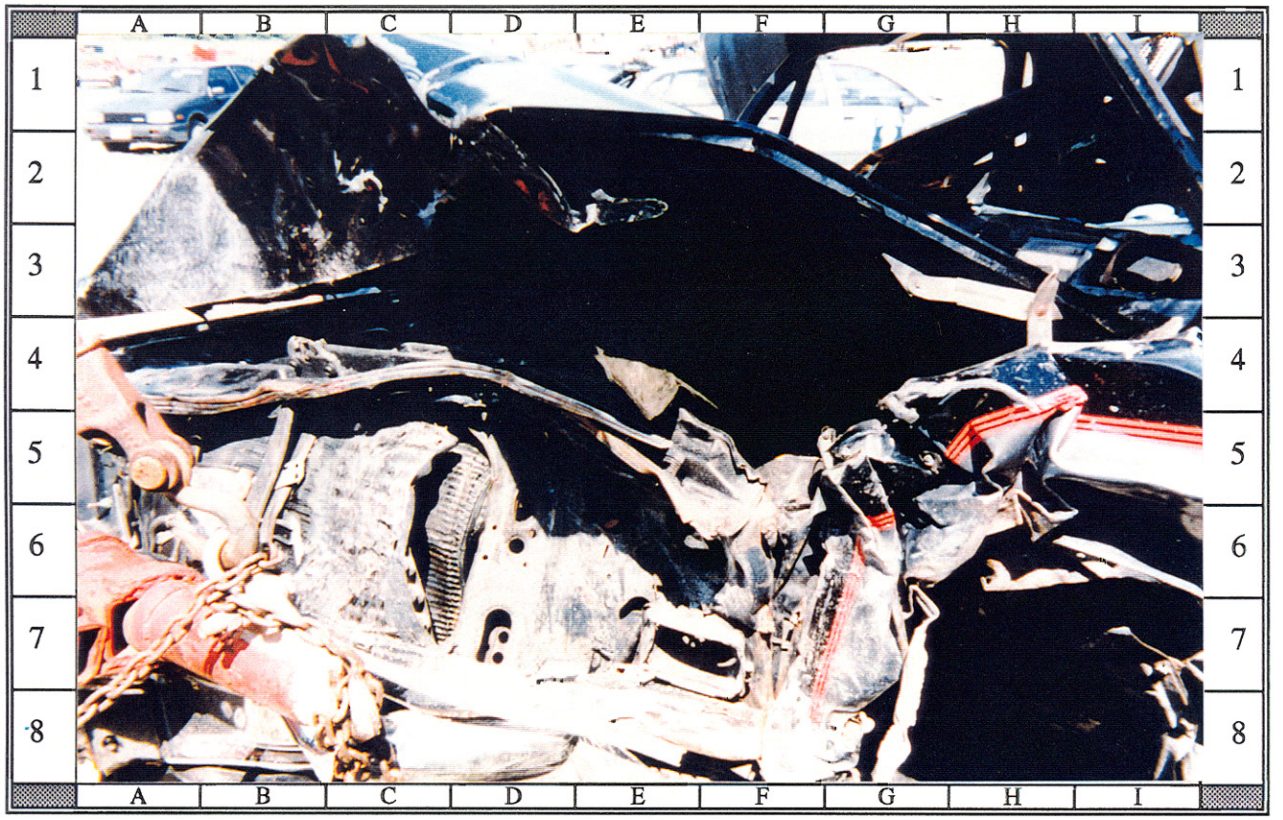
78: Close-up of Case Vehicle's right front safety belt latch assembly (i.e., connection of male and female ends) viewed from right; NOTE: belt cut for extrication

Case Vehicle: 1995 Isuzu Rodeo, 4-Door, AWD, Sport Utility, 5-Passenger, 3.2 L (193 in^3) V-6 MPFI

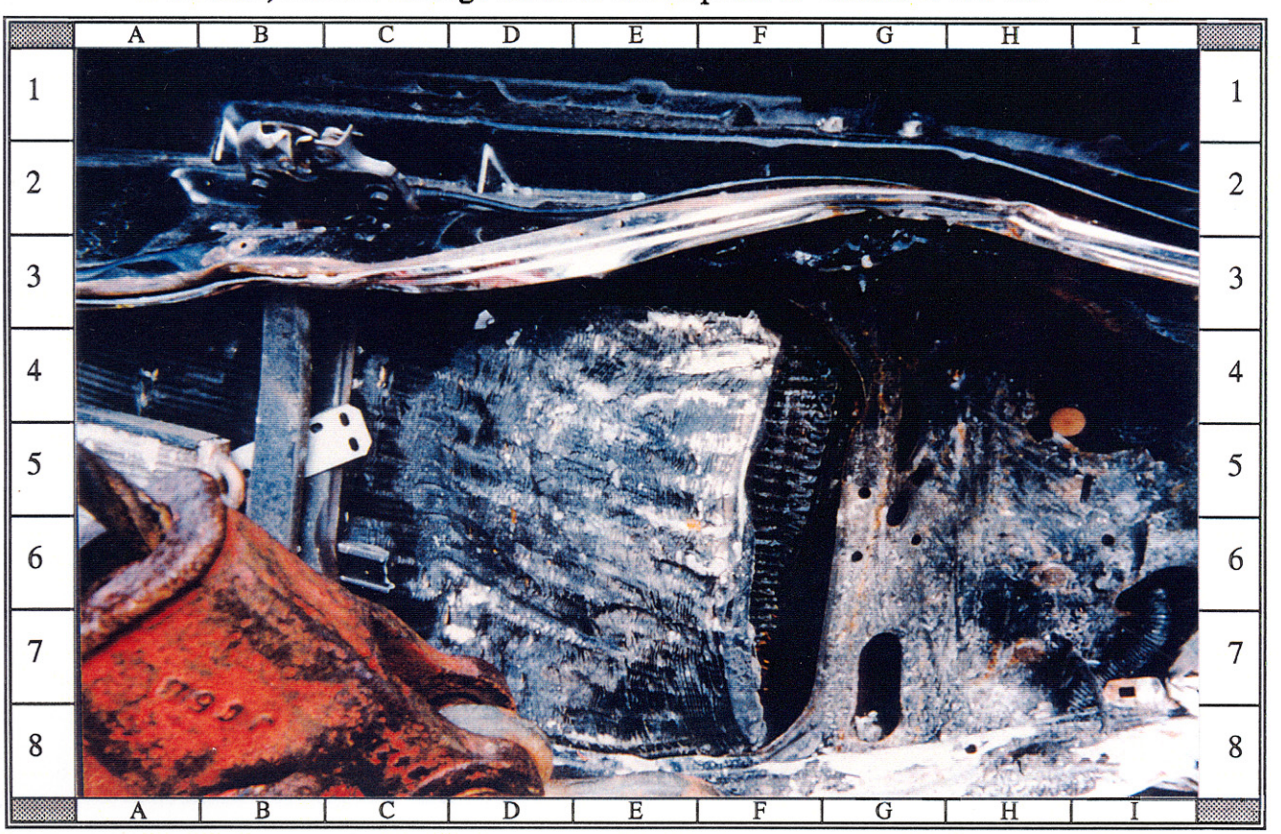
79: Case Vehicle's second seating area viewed through disintegrated left rear glazing showing outboard 3-point safety belts and adjustable head restraints

80: 1986 GMC pickup's (Vehicle #2's) damaged front viewed from left; NOTE: extent of crush and indirect damage to left "A"-pillar

Case Vehicle: 1995 Isuzu Rodeo, 4-Door, AWD, Sport Utility, 5-Passenger, 3.2 L (193 in^3) V-6 MPFI



81: Close-up of Vehicle #2's damaged front viewed from approximate 30 degrees left of front; NOTE: orange metal at left of photo is wrecker's tow bar



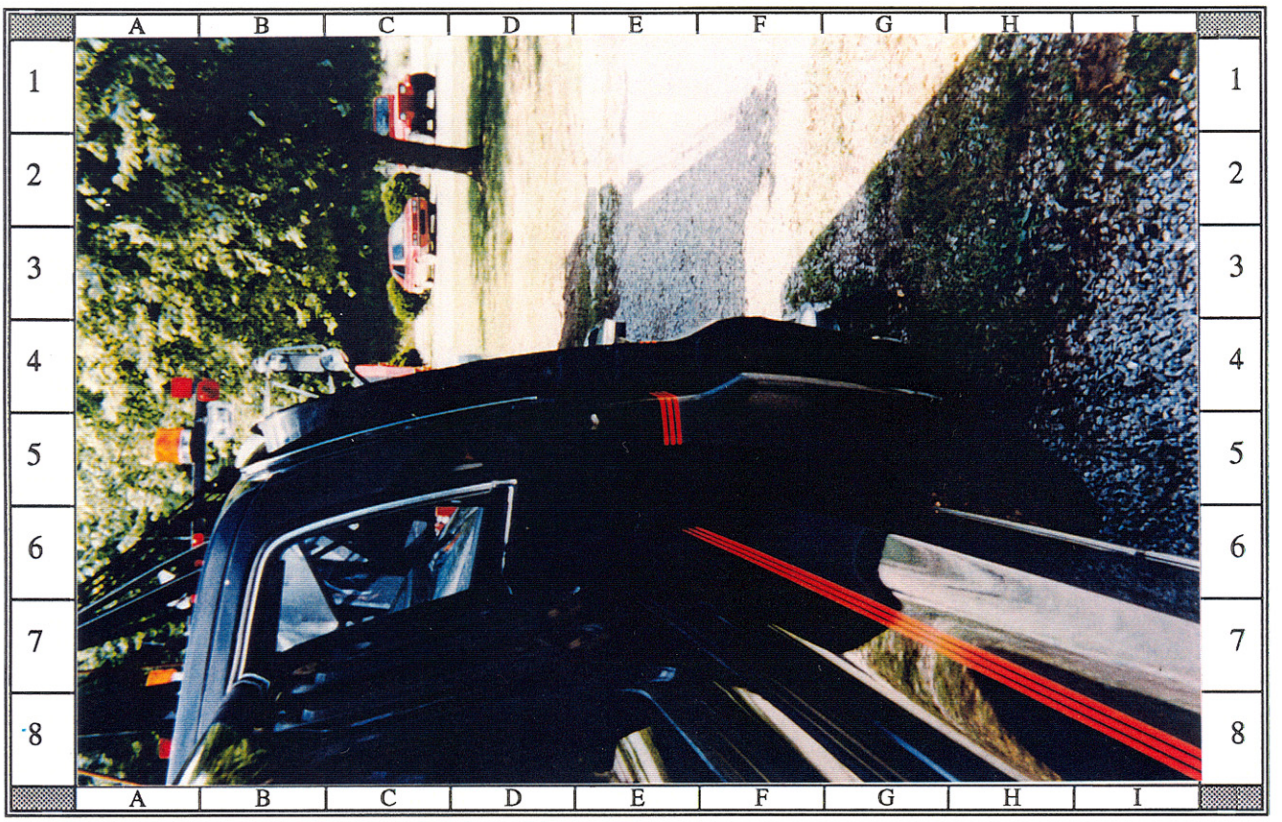
82: Close-up view of Vehicle #2's damage front center viewed from approximate 30 degrees left of front; NOTE: damage to hood latch and radiator

Vehicle #2: 1986 GMC C-1500, 2-Door, 4x2, Regular Cab Pickup, 6.5-Foot Bed, 5.0 L (305 in^3) V-8 4BBL

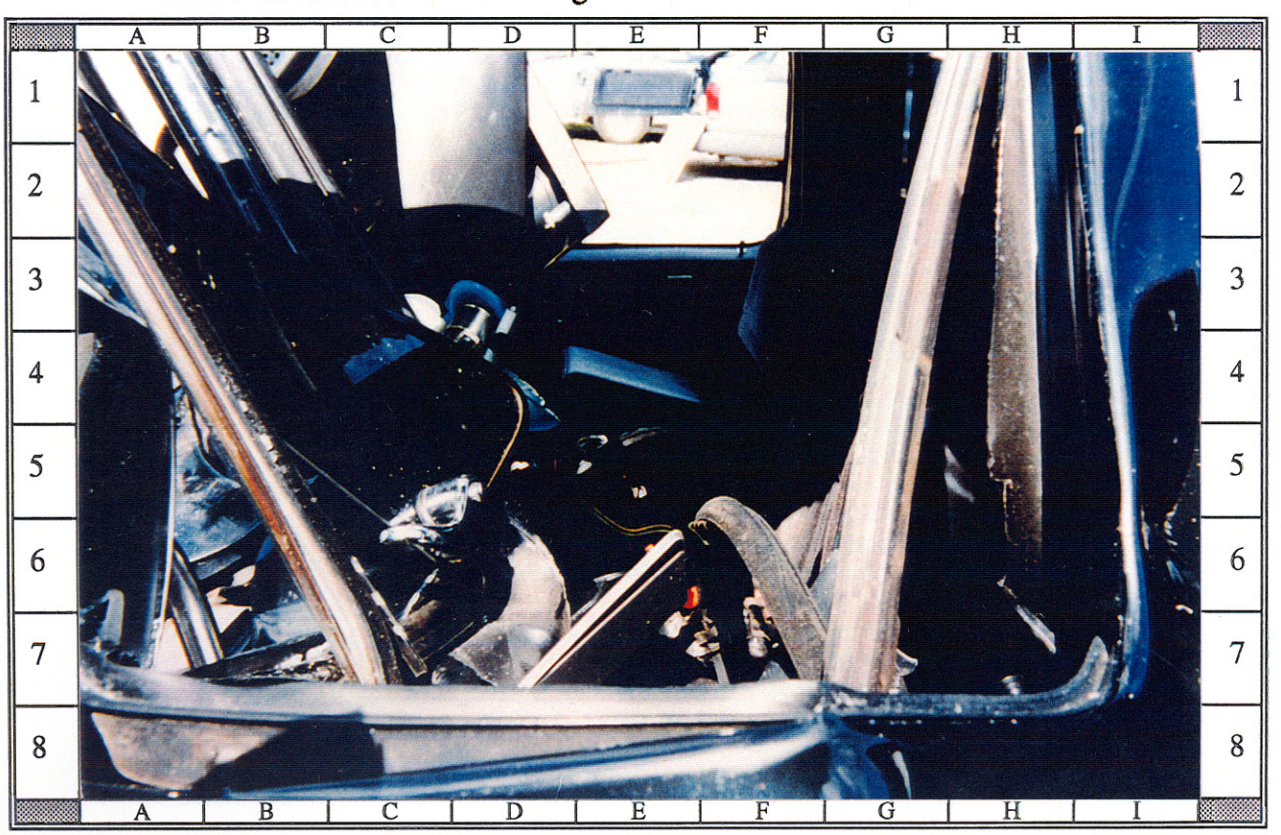
83: Vehicle #2's undamaged back showing attached half-shell camper top

84: Reference line view of Vehicle #2's right side from rear showing extensive shifting of cab

Vehicle #2: 1986 GMC C-1500, 2-Door, 4x2, Regular Cab Pickup, 6.5-Foot Bed, 5.0 L (305 in^3) V-8 4BBL

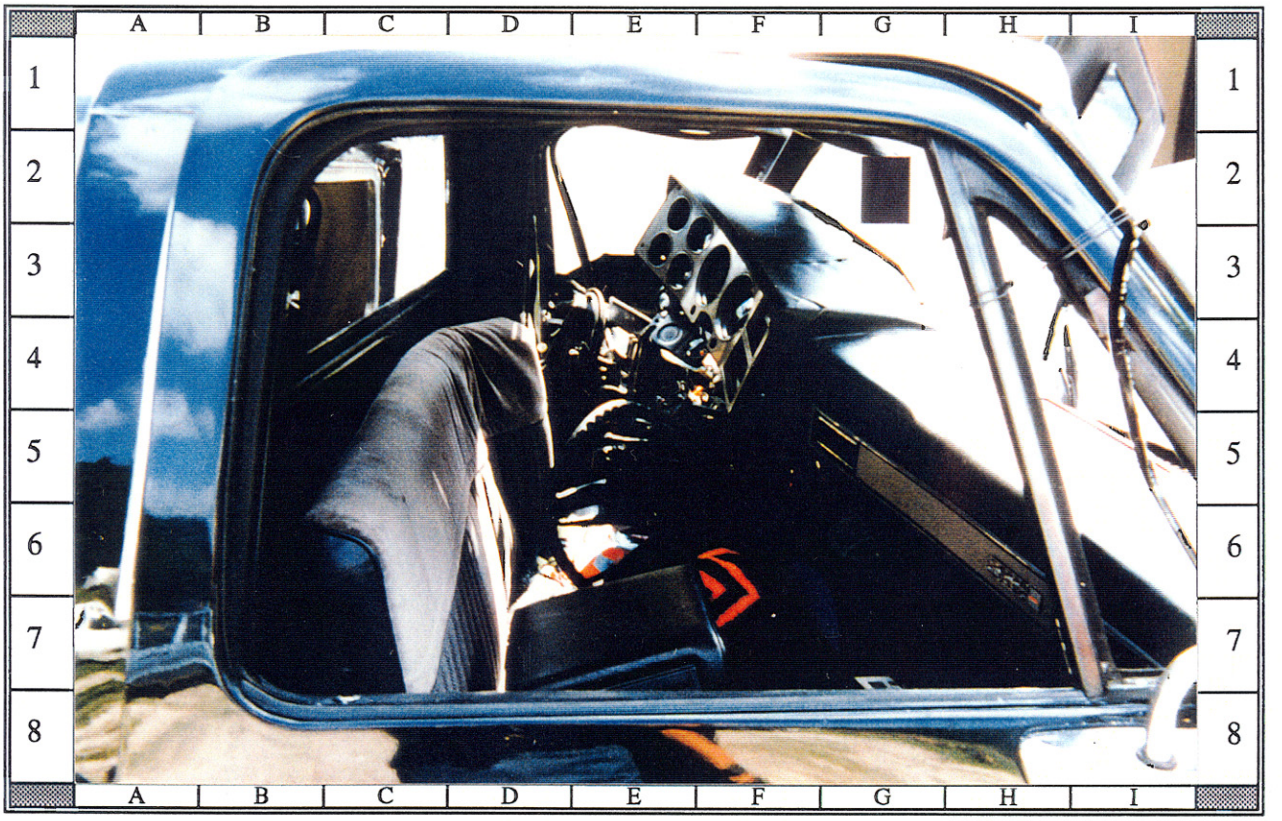


85: Close-up of Vehicle #2's left-to-right cab shift viewed from back; NOTE: extensive offset between cab and cargo bed

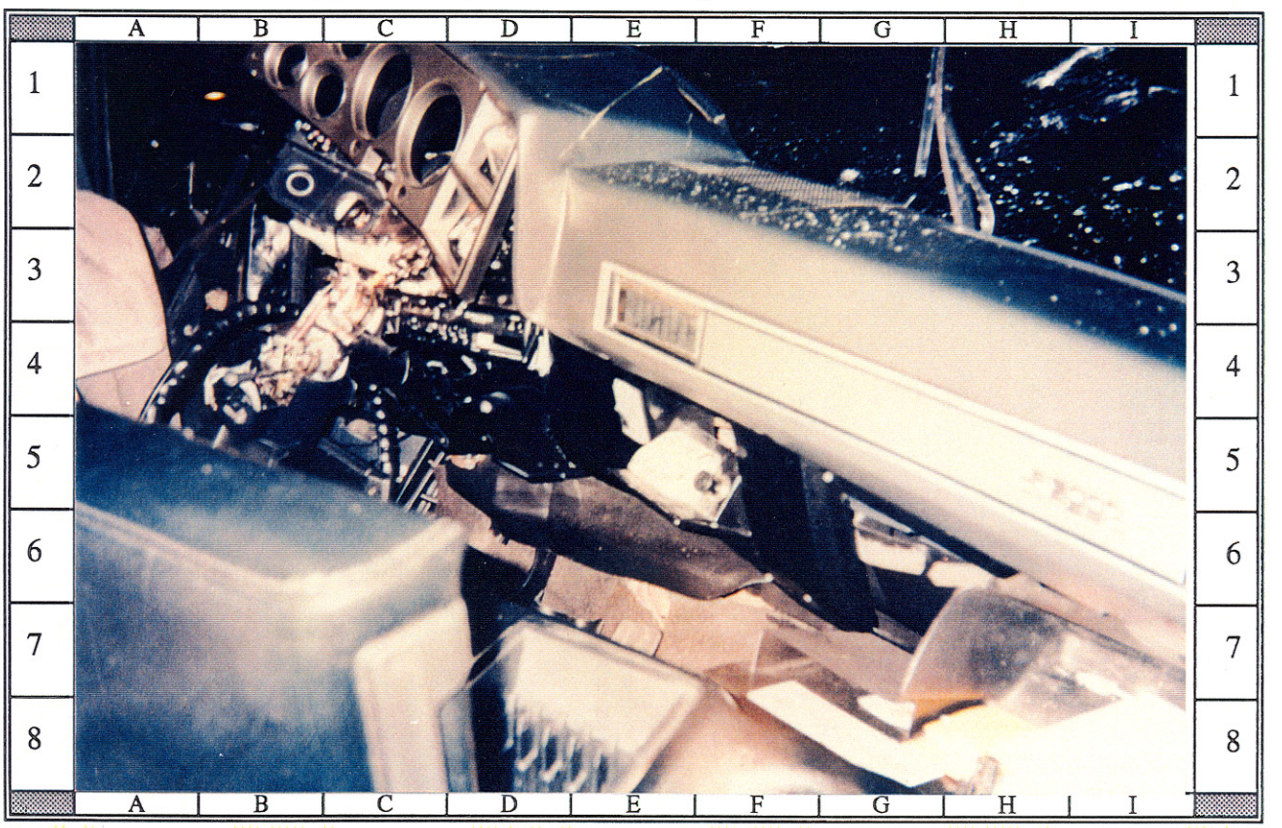


86: Vehicle #2's driver seating area viewed through the driver's disintegrated door glazing; NOTE: extensive intrusion into driver's space

Vehicle #2: 1986 GMC C-1500, 2-Door, 4x2, Regular Cab Pickup, 6.5-Foot Bed, 5.0 L (305 in^3) V-8 4BBL



87: Vehicle #2's front bench seat viewed through right front passenger's disintegrated door glazing; NOTE: position of steering wheel and column and bent seatback



88: On-scene view of Vehicle #2's steering wheel, instrument panel, and dash area viewed through right side of backlight; NOTE: intrusion to driver seating area

Vehicle #2: 1986 GMC C-1500, 2-Door, 4x2, Regular Cab Pickup, 6.5-Foot Bed, 5.0 L (305 in^3) V-8 4BBL

POLICE CRASH REPORT

BEST AVAILABLE

OFFICER'S STANDARD CRASH REPORT

State Form 23558(R3.7-91) Stock 302

Mail to: Crash Records Section

OFFICE USE ONLY

Crash I.D. No

Prim 10 | V1 10 | V1 1 | V2 | V2

LOCATION

Date of Crash (Month / Day / Year)	Day of Week	Actual Local Time	No. Motor Vehicles	No. Injured	No. Dead	No. Trailers
/ / 96		9:37 ☐ AM ☒ PM	2	1	2	0

County		Township		City/Town or Nearest City/Town	
		—			

Inside Corporate Limits? ☐ Yes ☒ No — Property? ☐ Private ☐ DNR ☒ Other — Distance and Direction From Corporate Limits: ____ Miles North ____ Miles South ____ Miles East 6 Miles West

Road Crash Occurred On		Intersecting Road/Mile Marker/Interchange	
—			

If not at Intersection: number of feet from	Direction	Nearest Intersecting Road/Mile Marker/Interchange
758 Ft	W	

DRIVER 1

Driver's Name (Last, First, MI): —

Address (Street, City, State, Zip):

Apparent Phys Stat (enter no.)	Sex	Date of Birth (Year)	Arrested?
2	M	70	☒ Yes ☐ No

Driver's License No	Lic Type	Lic St	Restr
26	OP		

DRIVER 2

Driver's Name (Last, First, MI):

Address (Street, City, State, Zip):

Apparent Phys Stat (enter no.)	Sex	Date of Birth (Year)	Arrested?
1	M	56	☐ Yes ☒ No

Driver's License No	Lic Type	Lic St	Restr
39	OP		

VEHICLE 1

Color	Veh Yr	Make	Model Name
BLK/GRA	86	GMC	P/U

Veh. Type (enter no.)	Lic Yr	License No	Lic State
2	96		

Veh. Use (enter no.)	Speed Limit	Fuel Tax No
1	45	

Direction of Travel	No. Occupants	Fire?	No. Axles	Transporting Hazardous Mat
W	1	☐ Yes ☒ No	2	☐ Yes [redacted]

Towed To: — Towed By:

Registered Owner's Name (Last, First, MI):

Address (Street, City, State, Zip):

VEHICLE 2

Color	Veh Yr	Make	Model Name
WHITE	96	ISUZU	RODEO 4DR

Veh. Type (enter no.)	Lic Yr	License No	Lic State
1	95		

Veh. Use (enter no.)	Speed Limit	Fuel Tax No
1	45	

Direction of Travel	No. Occupants	Fire?	No. Axles	Transporting Hazardous Mat
E	2	☒ Yes ☐ No	2	☐ Yes ☐ No

Towed To: — Towed By:

Registered Owner's Name (Last, First, MI):

Address (Street, City, State, Zip):

TRAILER 1

Registered Owner's Name (Last, First, MI):

Address (Street, City, State, Zip): [redacted]

License No	Make	Year	Lic St	Lic Yr

TRAILER 2

Registered Owner's Name (Last, First, MI):

Address (Street, City, State, Zip):

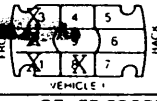
License No	Make	Year	Lic St	Lic Yr

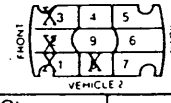
DAMAGE

INITIAL IMPACT V1	INITIAL IMPACT V2
1	1

DAMAGE EST V1	DAMAGE EST V2
4	6

Areas Damaged (Multiples): 10 - Undercarriage, 11 - Trailer, 12 - None





OTHER PROPERTY (INCLUDE CARGO)

Name of Object	OWNER'S NAME AND ADDRESS	Damage Est (use chart)

PEDESTRIAN

Direction	Street/Highway	Arrested?	Apparent Phys. Stat. (enter no.)
		☐ Yes ☐ No	

What was pedestrian doing before crash? Enter No.

1 Not in roadway
2 Standing in roadway
3 Playing in roadway
4 Pushing or working on vehicle
5 Other working in roadway
6 Walking in roadway with traffic
7 Walking in roadway against traffic
8 Getting on or off vehicle
9 [redacted]
10 Crossing or entering not at intersection
11 Crossing or entering at intersection
12 Other

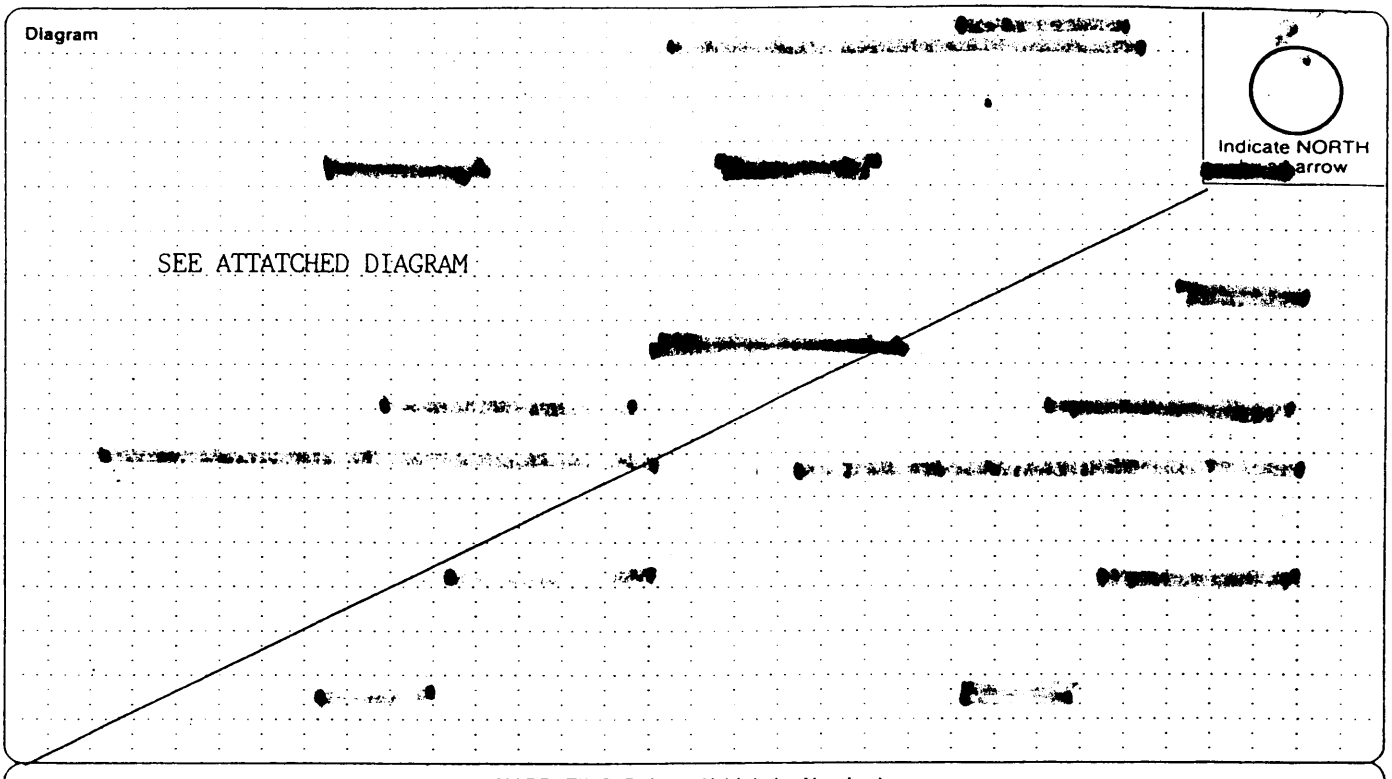
Pedestrian Traffic Control? ☐ Yes ☐ No

16	17	18	18A	19	20	21	22	23	24	25.	26.	27.	28.	29
		1	2	1	DRIVER OF VEHICLE 1 (as listed above)	8	11	1	00 20	[redacted]		2	1	.246
		3	1	1	DRIVER OF VEHICLE 2 (as listed above)	[redacted]		6	U			2	1	PENDING
2	3	3	1	1		2	2	6	U	49	F	1		[redacted]

96

[redacted] BEST AVAILABLE

Diagram



NARRATIVE (Refer to Vehicle by Number)

ON [redacted] 96 AT 9:53PM I WAS SENT TO ASSIST THE [redacted] COUNTY SHERIFFS DEPT WITH A FATAL CRASH WHEN I ARRIVED DEPUTY [redacted] ASKED ME TO WORK THE CRASH. MY INITAL OBSERVATION I OBSERVED TWO VEHICLES. VEHICLE #1 WAS A 1986 GMC TRUCK WITH A CAMPER TOP. THIS VEHICLE WAS IN THE WESTBOUND LANE FACING SOUTH. VEHICLE #2 A 1996 ISUZU RODEO WAS OFF OF THE SOUTH SIDE OF THE ROADWAY IN A GRASSEY AREA FACING NORTHWEST. I WAS ADVISED THAT THERE WAS ONE FEMALE PASSENGER IN VEHICLE #2 THAT WAS DEAD. A FEW MINUTES LATER I WAS ADVISED THAT THE DRIVER OF VEHICLE #2 HAD DIED. THE DRIVER OF VEHICLE #1 WAS TAKEN TO THE HOSPITAL. WHILE EXAMINING THE SCENE I OBSERVED GOUGE MARKS, SCRAPE MARKS AND VEHICLE DEBRIS ON THE SOUTH EDGE OF THE EASTBOUND LANE. THIS INDIACATED TO ME THAT VEHICLE #1 WAS LEFT OF CENTER AT THE TIME OF THE ACCIDENT. I THEN CALLED FOR MASTER TROOPER (ACCIDENT RECONSTRUCTIONIST) [redacted] EXAMINED THE SCENE, TOOK MEASUREMENTS AND TOOK THE HEADLIGHTS FOR EXAMINATION. FROM THE WITNESS STATEMENTS AND THE FINAL REST OF THE VEHICLES,

D1 Insured By	Isured By UNKNOWN	
Other Participant(s) Name, Address (etc.)		
Name of Witness No. 1	Address	Location at Time of Crash BEHIND V-1
Name of Witness No. 2	Address	Location at Time of Crash N. BEHIND V-1
Name of Person Arrested	Name of Person Arrested	I.C. Code(s)

INVESTIGATION

Time Notified 9:53 [ ] AM [X] PM	Time Arrived 10:01 [ ] AM [X] PM	Other Location of Investigation HOSPITAL	Investigation Complete [ ] Yes [X] No	Photos Taken [X] Yes [ ] No
Assisting Officer	I.D. No	Agency SHERIFFS DEPT	Date of Report -96	
Assisting Officer [redacted]	I.D. No	Agency STATE POLICE	Driver Report Form Furnished [X] D1 [ ] D2	
Investigator	I.D. No	STATE POLICE		

BEST AVAILABLE

OFFICER'S STANDARD CRASH REPORT

State Form 23558(R3/7-91) Stock 302
Mail to State Police, Crash Records Section

OFFICE USE ONLY
Crash I D No

1 Pgm 10 | V1 10 | V1 1 | V2 | V2

LOCATION

Date of Crash	Day of Week	Actual Local Time	No Motor Vehicles	No Injured	No Dead	No Trailers
YEAR 96	STAURDAY	9:37 ☐ AM ☒ PM	2	1	2	0

County	Township	City/Town or Nearest City/Town

Inside Corporate Limits? ☐ Yes ☒ No
Property? ☐ DNR ☐ Private ☒ Other
Distance and Direction From Corporate Limits: ____ Miles North ____ Miles South ____ Miles East 6 Miles West

Road Crash Occurred On	Intersecting Road/Mile Marker/Interchange

If not at Intersection number of feet from	Direction	Nearest Intersecting Road/Mile Marker/Interchange
758ft	E	

2 V1 1 | V2 1

DRIVER 1

Driver's Name (Last, First, MI): [redacted]
Address (Street, City, State, Zip)

Apparent Phys Stat (enter no.)	Sex	Date of Birth MONTH DAY YEAR	Arrested?
2	M	70	☒ Yes ☐ No

Driver's License No	Lic Type	Lic St	Restr
	OP		---

3 V1 1 | V1 | V1 | V2 1 | V2 | V2

VEHICLE 1

Color	Veh Yr	Make	Model Name

Veh Type (enter no.)	Lic Yr	License No	Lic State

Veh Use (enter no.)	Speed Limit	Fuel Tax No

Direction of Travel	No Occupants	Fire?	No Axles	Transporting Hazardous Mat
		☐ Yes ☐ No		☐ Yes ☐ No

Towed To	Towed By

Registered Owner's Name (Last, First, MI)
Address (Street, City, State, Zip)

4 V1 10 | V1 | V2 10 | V2

5 V1 | V2

TRAILER 1

Registered Owner's Name (Last, First, MI)
Address (Street, City, State, Zip)

License No	Make	Year	Lic St	Lic Yr

6 2

DRIVER 2

Driver's Name (Last, First, MI)
Address (Street, City, State, Zip)

Apparent Phys Stat (enter no.)	Sex	Date of Birth MONTH DAY YEAR	Arrested?
1	M	56	☐ Yes ☒ No

Driver's License No	Lic Type	Lic St	Restr
	OP		----

7 2 | 8 7 | 9 4 | 10 2 | 11 5

VEHICLE 2

Color	Veh Yr	Make	Model Name

Veh Type (enter no.)	Lic Yr	License No	Lic State

Veh Use (enter no.)	Speed Limit	Fuel Tax No

Direction of Travel	No Occupants	Fire?	No Axles	Transporting Hazardous Mat
		☒ Yes ☐ No		☐ Yes ☐ No

Towed To	Towed By

Registered Owner's Name (Last, First, MI)
Address (Street, City, State, Zip)

12 2 | 13 2 | 14 5 | 15 2

TRAILER 2

Registered Owner's Name (Last, First, MI)
Address (Street, City, State, Zip)

License No	Make	Year	Lic St	Lic Yr

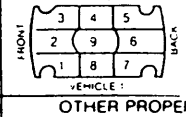
15A 2

DAMAGE

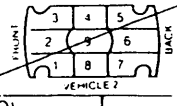
INITIAL IMPACT V1	INITIAL IMPACT V2

DAMAGE EST V1	DAMAGE EST V2

Areas Damaged (Multiples)



10 · Undercarriage
11 · Trailer
12 · None



OTHER PROPERTY (INCLUDE CARGO)

Name of Object	OWNER'S NAME AND ADDRESS	Damage Est (use chart)

PEDESTRIAN

Direction	Street/Highway	Arrested?	Apparent Phys Stat (enter no.)
		☐ Yes ☐ No	

What was pedestrian doing before crash? Enter No

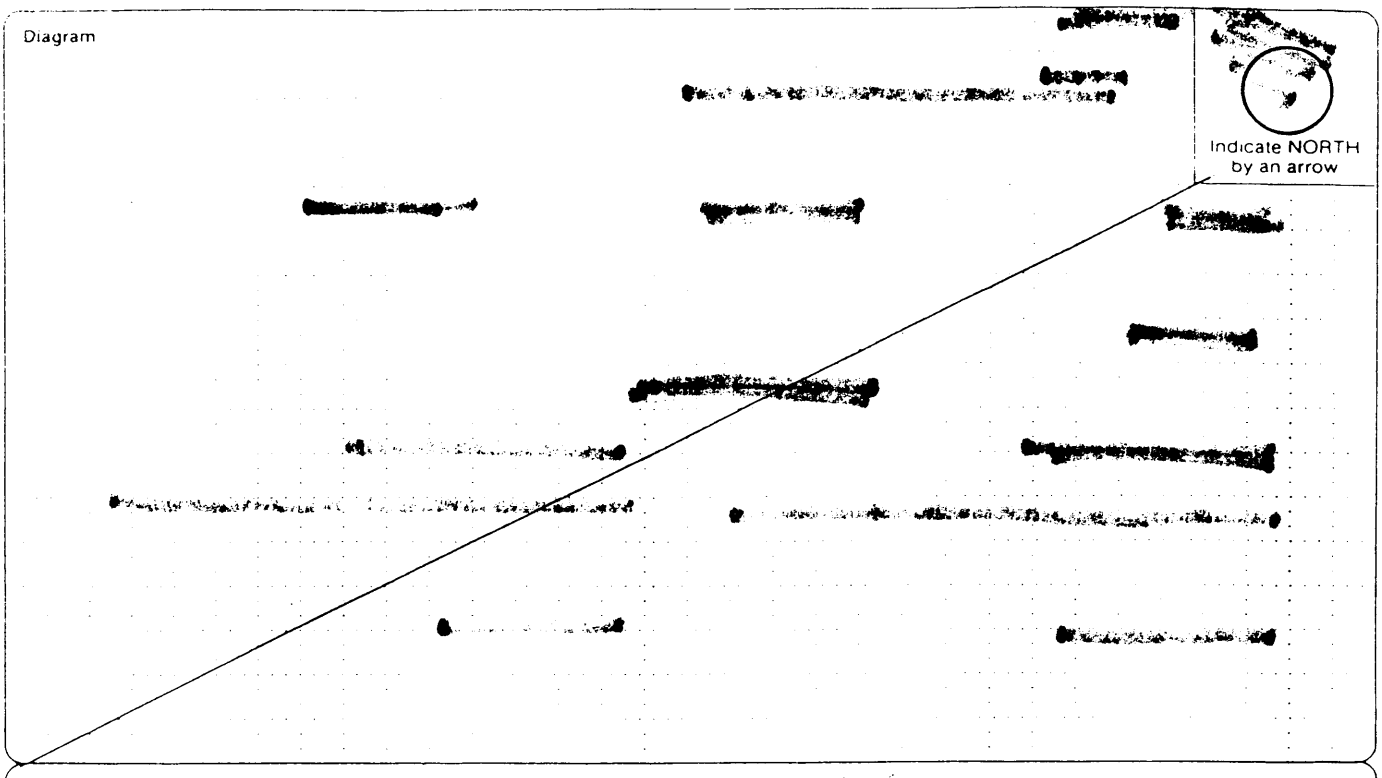
1 Not in roadway
2 Standing in roadway
3 Playing in roadway
4 Pushing or working on vehicle
5 Other working in roadway
6 Walking in roadway with traffic
7 Walking in roadway against traffic
8 Getting on or off vehicle
9 Getting on or off school bus
10 Crossing or entering not at intersection
11 Crossing or entering at intersection
12 Other

Pedestrian Traffic Control? ☐ Yes ☐ No

16	17	18	18A	19	20	21	22	23	24	25	26	27	28	29
					DRIVER OF VEHICLE 1 (as listed above)									
					DRIVER OF VEHICLE 2 (as listed above)									

BEST AVAILABLE

Diagram



NARRATIVE (Refer to Vehicle by Number)

AND DRIVER #1 STATEMENT, I DETERMINED THAT VEHICLE #1 WAS TRAVELING WEST ON SR. ALL FOUR WITNESSES ADVISED THAT VEHICLE #1 PASSED THEM AT A HIGH RATE OF SPEED IN NO PASSING ZONES. VEHICLE #1 WAS LEFT OF CENTER AND IN THE EASTBOUND LANE OF SR. GOING AROUND A CURVE WHEN IT COLLIDED WITH VEHICLE #2 WHICH WAS EASTBOUND ON SR. VEHICLE #2 WAS [illegible] IN THE EASTBOUND LANE WHEN THIS CRASH OCCURED.

D1 Insured By

D2 Insured By: UNKNOWN

Other Participant(s) Name, Address (etc.)

Name of Witness No. 1 | Address | Location at Time of Crash: BEHIND V-1

Name of Witness No. 2 | Address | Location at Time of Crash: BEHIND V-1

Name of Person Arrested | Name of Person Arrested | I.C. Code(s)

INVESTIGATION

Time Notified: 9:53 AM [X] PM | Time Arrived: 10:01 AM [X] PM | Other Location of Investigation: HOSPITAL | Investigation Complete: [X] Yes [ ] No | Photos Taken: [X] Yes [ ] No

Assisting Officer | I.D. No. | Agency | Date of Report

Assisting Officer | I.D. | Agency: STATE POLICE | Driver Report Form Furnished: [X] D1 [ ] D2

Investigating Officer's Signature | I.D. | Agency: STATE POLICE

33

DATE: _____ TIME: 2250 LOCATION: SR 46 E OF TC

REFERENCE POINT: FOG LINE 89 FT E. + 39 FT N OF U.P.

INVESTIGATING: 5365 ASSISTING: 3848, 5889,

ADDITIONAL: FIRE DEPT, 10-51

ITEM	NORTH	SOUTH	EAST	WEST	DESCRIPTION
A		5' 0"		8' 4"	HEADLT ASSMBLY V2 (R) * MELTON ADVISED ME WAS MOVED HERE
B				8' 10"	SKID MARK ON FOG LINE (SHADOW FROM TRK LT?)
C				13' 4"	SMALL GLASS LENS PIECE
D				16' 2"	SKID FROM "B" MOVES TO W
E				14' 0"	2ND SKID VISIBLE
F	1' 7"			21' 3"	SKIDS "B" + "E" CROSS
G	2' 9"			24' 4"	1/2 MOON SCAR N TO S 0' 5" LONG
H	2' 8"			26'	SCRATCH STARTS
I	2' 2"			27'	SCRATCH ENDS
J				31' 5"	SKID MARKS CROSS FOG LINE V-2
K	4' 8"			36' 4"	SCRATCH STARTS
L	4' 3"			37' 5"	PARALLEL SCRATCH STARTS
M	4' 4"			40' 8"	SCRATCH "L" ENDS
N	4' 2"			40' 8"	SCRATCH "K" ENDS

COORDINATE SUPP.

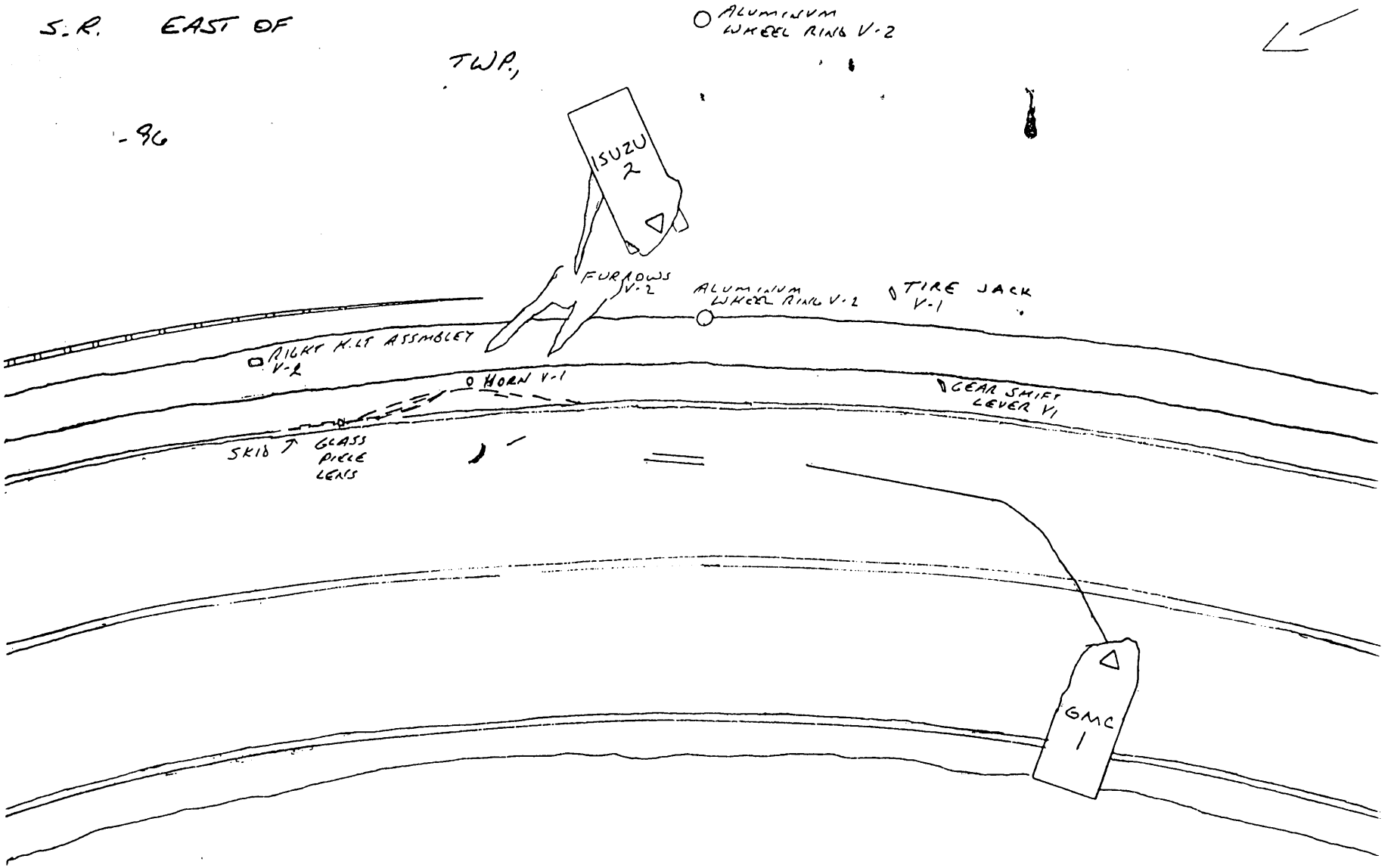
ITEM	NORTH	SOUTH	EAST	WEST	DESCRIPTION
O		10 7/		36 1/	RF #2
P		20 1/		31 10	RR #2
Q	4 6			48 7/	SCRATCH STARTS
R	6 1/			63	SCRATCH CONT. + BENDS TO V-1 (MIDDLE)
S	23 9/			69 6	LR #1
T	16 5/			70 1/	LF #1
U		8		28	G. RAIL ENDS
V		3 8/		29 5/	FURROW V-2
W		9 6/		31 1/	FURROW V-2 UNDER CAR
X		2 1/		25 3/	"HORN?" ENG. PIECE V-1
Y		5 1/2		40 7/	WHEEL RIM V-2
Z		5 1/2		27 1/2	" " " "
AA		8 7/		54	TIRE JACK V-1
BB	[redacted]	[redacted] 3/	[redacted]	58	GEAR SHIFT LEVER
CC				20	WHITE [redacted]

CHUSING DEATH

S.R. EAST OF

TWP.,

-96



0 5 10
FEET

INVESTIGATED BY:
TRP. 536

MEASURED BY:
TRP. 5889
M/TRP. 38YE

TRANSPORTATION RESEARCH CENTER

Indiana University
Bloomington, Indiana 47403-1599

ON-SITE AIR BAG INVESTIGATION

NASS CDS FORMS AND MEDICAL RECORDS

CASE NO. - 96-16
FLEET - PRIVATE VEHICLE
LOCATION -
ACCIDENT DATE 1996

Submitted By:

Research Scientist
and

Associate Scientist

1996

Revised Submission:

2000

Contract Number:

Prepared for:

U.S. Department of Transportation
National Highway Traffic Safety Administration
National Center for Statistics and Analysis
Washington, D.C. 20590-0003

U.S. Department of Transportation
National Highway Traffic Safety Administration

ACCIDENT FORM

NATIONAL ACCIDENT SAMPLING SYSTEM
CRASHWORTHINESS DATA SYSTEM

1. Primary Sampling Unit Number: 10
2. Case Number - Stratum: 9616

IDENTIFICATION

3. Number of General Vehicle Forms Submitted: 02
4. Date of Accident (Month,Day,Year): ___ ___ ___ 96
5. Time of Accident: 2137

Code reported military time of accident.

NOTE: Midnight = 2400
Unknown = 9999

SPECIAL STUDIES - INDICATORS

Check (✓) each special study (SS15-SS18 below) that has been completed; code 1 for the checked special studies and 0 for the special studies not checked.

6. ___ SS15 Administrative Use: 0
7. ___ SS16 Pedestrian Crash Data Study: 0
   (Data for this special study available in a separate file.)
8. ___ SS17 Impact Fires: 0
9. ___ SS18 Unsafe Driver Actions: 0
10. ___ SS19 Run Off Road: 0

NUMBER OF EVENTS

11. Number of Recorded Events in This Accident: 01

Code the number of events which occurred in this accident.

ACCIDENT EVENTS

For each event that occurred in the accident, code the lowest numbered vehicle in the left columns and the other involved vehicle or object in the right columnns.

Accident Event Sequence Number	Vehicle Number	Class Of Vehicle	General Area of Damage	Vehicle Number or Object Contacted	Class Of Vehicle	General Area of Damage
12. 01	13. 01	14. 14	15. F	16. 02	17. 31	18. F
19. 02	20.	21.	22.	23.	24.	25.
26. 03	27.	28.	29.	30.	31.	32.
33 04	34.	35.	36.	37.	38.	39.
40. 05	41.	42.	43.	44.	45.	46.

IF GREATER THAN FIVE EVENTS, CONTINUE CODING ON THE ACCIDENT EVENT SUPPLEMENT

CODES FOR CLASS OF VEHICLE

(00) Not a motor vehicle
(01) Subcompact/mini (wheelbase < 254 cm)
(02) Compact (wheelbase ≥ 254 but < 265 cm)
(03) Intermediate (wheelbase ≥ 265 but < 278 cm)
(04) Full size (wheelbase ≥ 278 but < 291 cm)
(05) Largest (wheelbase ≥ 291 cm)
(09) Unknown passenger car size
(14) Compact utility vehicle
(15) Large utility vehicle (≤ 4,536 kgs GVWR)
(16) Utility station wagon (≤ 4,536 kgs GVWR)
(19) Unknown utility type
(20) Minivan (≤ 4,536 kgs GVWR)
(21) Large van (≤ 4,536 kgs GVWR)
(24) Van Based school bus (≤ 4,536 kgs GVWR)
(28) Other van type (≤ 4,536 kgs GVWR)
(29) Unknown van type (≤ 4,536 kgs GVWR)
(30) Compact pickup truck (≤ 4,536 kgs GVWR)
(31) Large pickup truck (≤ 4,536 kgs GVWR)
(38) Other pickup truck (≤ 4,536 kgs GVWR)
(39) Unknown pickup truck type (≤ 4,536 kgs GVWR
(45) Other light truck (≤ 4,536 kgs GVWR)
(48) Unknown light truck type (≤ 4,536 kgs GVWR)
(49) Unknown light vehicle type
(50) School bus (excludes van based)(>4,536 kgs GVWR)
(58) Other bus (> 4,536 kgs GVWR)
(59) Unknown bus type
(60) Truck (> 4,536 kgs GVWR)
(67) Tractor without trailer
(68) Tractor-trailer(s)
(78) Unknown medium/heavy truck type
(79) Unknown light/medium/heavy truck type
(80) Motored cycle
(90) Other vehicle
(99) Unknown

CODES FOR GENERAL AREA OF DAMAGE (GAD)

CDS APPLICABLE AND OTHER VEHICLES
(0) Not a motor vehicle
(N) Noncollision
(F) Front
(R) Right side
(L) Left side
(B) Back
(T) Top
(U) Undercarriage
(9) Unknown

TDC APPLICABLE VEHICLES
(0) Not a motor vehicle
(N) Noncollision
(F) Front
(R) Right side
(L) Left side
(B) Back of unit with cargo area (rear of trailer or straight truck)
(D) Back (rear of tractor)
(C) Rear of cab
(V) Front of cargo area
(T) Top
(U) Undercarriage
(9) Unknown

CODES FOR VEHICLE NUMBER OR OBJECT CONTACTED

(01-30) — Vehicle Number

Noncollision
(31) Overturn — rollover (excludes end-over-end)
(32) Rollover — end-over-end
(33) Fire or explosion
(34) Jackknife
(35) Other intraunit damage (specify): _____
(36) Noncollision injury
(38) Other noncollision (specify): _____
(39) Noncollision — details unknown

Collision With Fixed Object
(41) Tree (≤ 10 cm in diameter)
(42) Tree (> 10 cm in diameter)
(43) Shrubbery or bush
(44) Embankment
(45) Breakaway pole or post (any diameter)

Nonbreakaway Pole or Post
(50) Pole or post (≤ 10 cm in diameter)
(51) Pole or post (> 10 cm but ≤ 30 cm in diameter)
(52) Pole or post (> 30 cm in diameter)
(53) Pole or post (diameter unknown)

(54) Concrete traffic barrier
(55) Impact attenuator
(56) Other traffic barrier (includes guardrail) (specify): _____
(57) Fence
(58) Wall
(59) Building
(60) Ditch or culvert
(61) Ground
(62) Fire hydrant
(63) Curb
(64) Bridge
(68) Other fixed object (specify): _____
(69) Unknown fixed object

Collision with Nonfixed Object
(70) Passenger car, light truck, van, or other vehicle not in-transport
(71) Medium/heavy truck or bus not in-transport
(72) Pedestrian
(73) Cyclist or cycle
(74) Other nonmotorist or conveyance _____
(75) Vehicle occupant
(76) Animal
(77) Train
(78) Trailer, disconnected in transport
(79) Object fell from vehicle in-transport
(88) Other nonfixed object (specify): _____
(89) Unknown nonfixed object

(98) Other event (specify): _____
(99) Unknown event or object

U.S. Department of Transportation
National Highway Traffic Safety Administration

ACCIDENT COLLISION MEASUREMENT TABLE

BEST AVAILABLE

NATIONAL ACCIDENT SAMPLING SYSTEM
CRASHWORTHINESS DATA SYSTEM

Primary Sampling Unit Number 1 0 | Case Number—Stratum 9 6 1 6

ACCIDENT COLLISION DIAGRAM

Document the physical plant:

- all road/roadway delineation (e.g., curbs/edge lines, lane markings, median markings, pavement markings, parked vehicles, poles, signs, etc.)
- all traffic controls (e.g., signs/signals, etc.)
- north arrow placed on diagram
- roadway surface type and condition of applicable roadways
- grade measurements for all applicable roadways and at location of rollover initiation
- roadway curvature (include measurement of precrash superelevation for each vehicle if applicable)

Document vehicle dynamics including:

- reference point and reference line relative to physical features present at the scene
- scaled documentation of all accident induced physical evidence
- scaled documentation of all roadside objects contacted
- scaled representations of the vehicle(s) at pre-impact, impact, and final rest based upon either:
  - a) physical evidence, or
  - b) reconstructed accident dynamics

CRASH DATA

	VEH. #1	VEH. #2	VEH. #3
Heading Angle	090	245	
Surface Type	ASPHALT	ASPHALT	
Surface Condition	TRAVELED	TRAVELED	
Coefficient of Friction	0.75	0.75	
Grade (v/h) Measurement (between impact and final rest)	−2.9%	+2.9%	
Grade (v/h) Measurement (at location of rollover initiation)			
Grade (v/h) Measurement (at pre-crash location)			

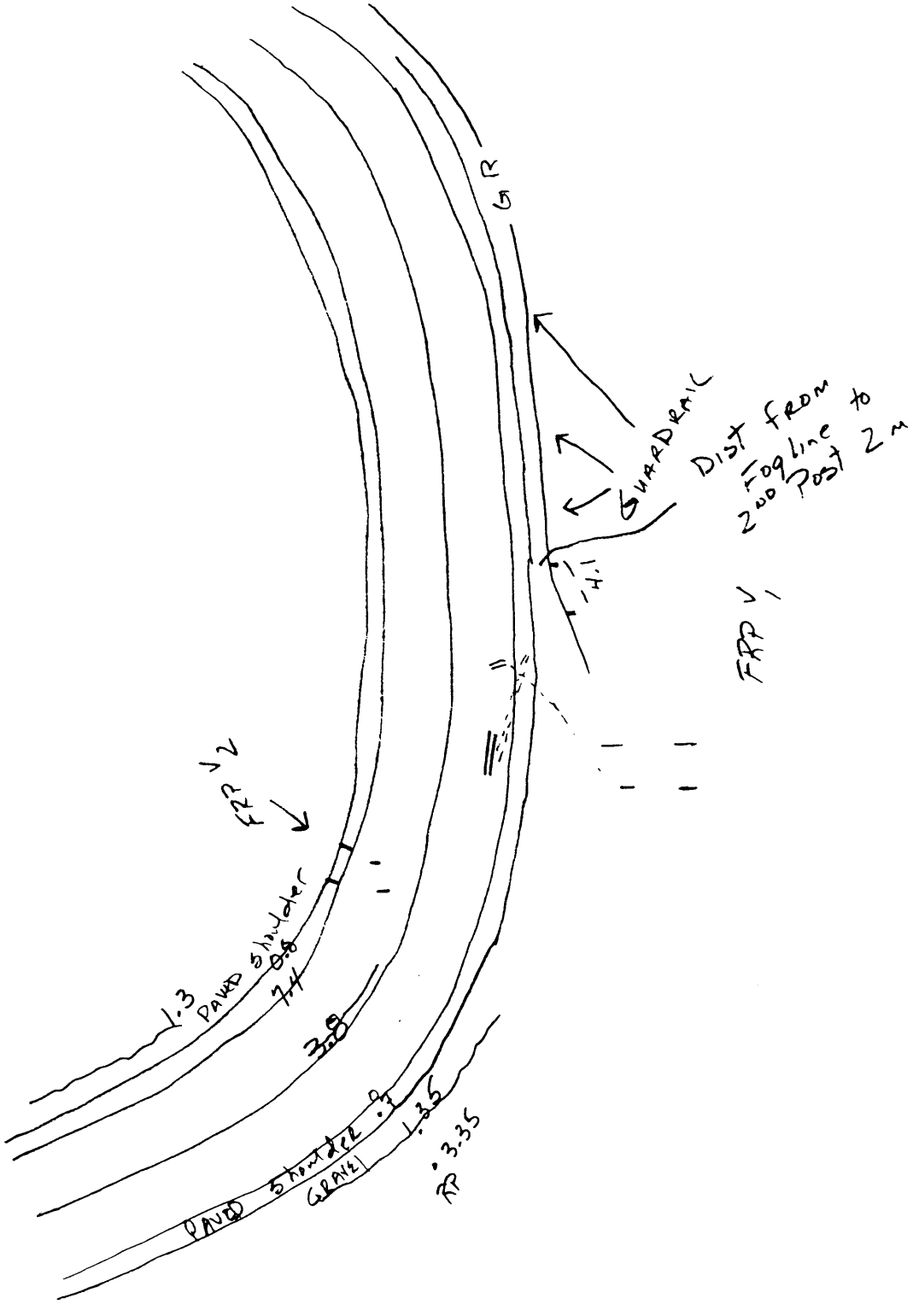
Reference Point: FIRST VISIBLE

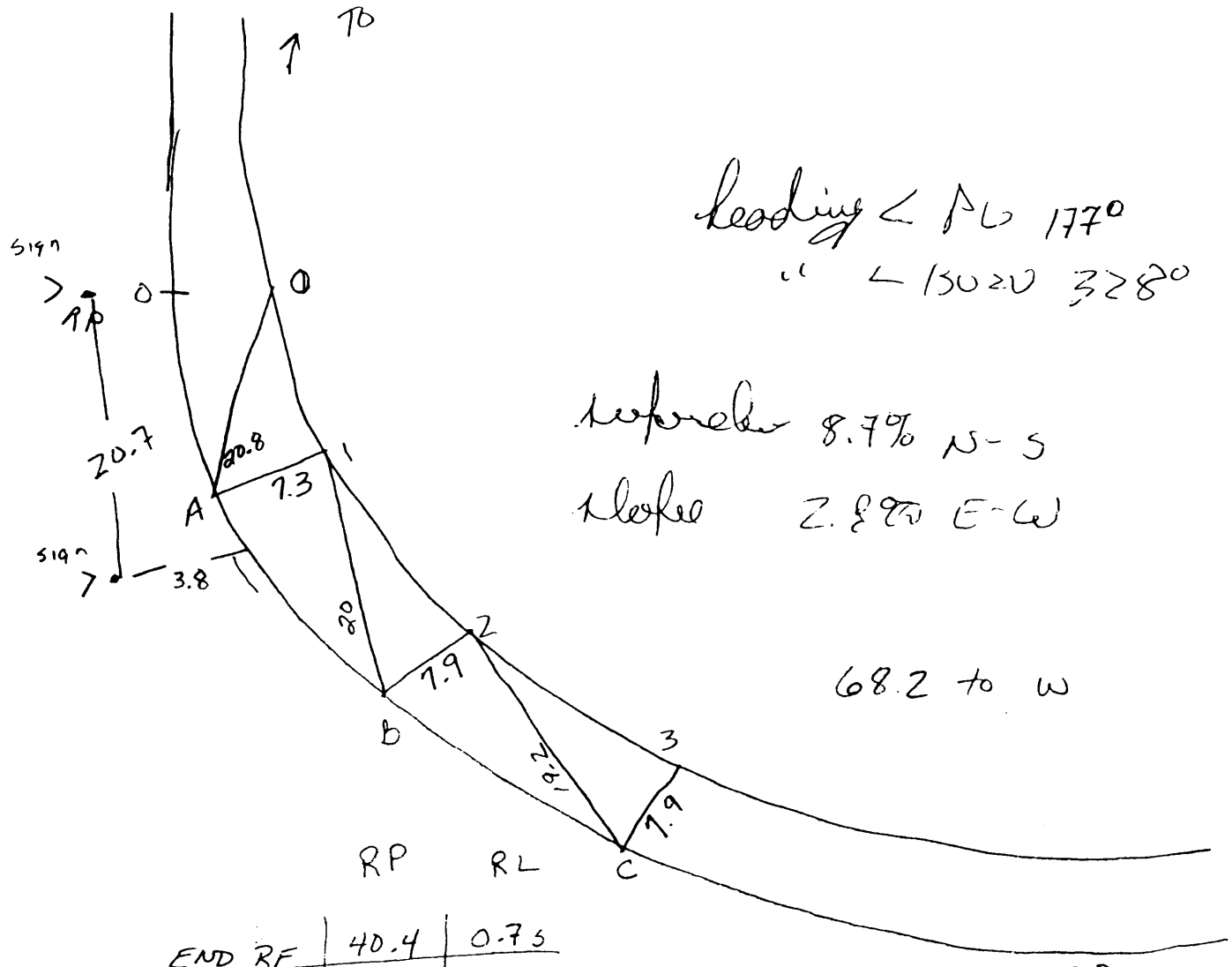
Reference line: RL1 SOUTH FOG LINE
RL2 NORTH FOG LINE

Item	Distance and Direction from Reference Point	Distance and Direction from Reference Line
PCP	00	3.35M S OF RL1
SOUTH SHOULDER AT PCP - PAVED	00	0.7M S OF RL1
GRAVEL	00	1.35M S OF RL1
ROAD WIDTH AT PCP TO CENTERLINE	00	3.8M N OF RL1
TO N FOG LINE	00	7.4M N OF RL1
PAVED SHOULDER	00	0.8M N OF RL2
GRAVEL SHOULDER	00	1.3M N OF RL2

HS Form 431A (1/96)

Item	Distance and Direction from Reference Point	Distance and Direction from Reference Line


GR
GUARDRAIL
Dist from Fogline to 2nd Post 2m
FRP 1
FRP 2
1.3
PAVED shoulder
0.8
7.4
3.8
PAVED shoulder
GRAVEL
1.35
FP 3.35



END RF	40.4	0.7 s
Deviation	39.5	0.4 s
E Gouge	39.1-39.3	0.3 - 0.6 N
START LF	↓ SAME	↓ SAME
BEG GR	37.9 E	2.4 s
START RF	35.7 E	2.1 s
CV FRP LR	34.8 E	6.7 s
RR	36.4	6.1 s
LF	34.5 E	4.2 s
RF		
W V2 Gouge	34.3-35.3	1.3 .1 APART
FRP LR	24.3	.3 N
RR	22.7	.4 N
LF	23.6	2.1
RP		

PRF 0.3 s
POST LF 0.8 s

1ST GR I BEAM RP 39.8

END LF (M·D) 36.3

@ RR FRP PRE RF .1 s
POST LF 1.9 s

NASS CDS VEHICLE FORMS: CASE VEHICLE

U.S. Department of Transportation
National Highway Traffic Safety Administration

GENERAL VEHICLE FORM

NATIONAL ACCIDENT SAMPLING SYSTEM
CRASHWORTHINESS DATA SYSTEM

1. Primary Sampling Unit Number: 10
2. Case Number - Stratum: 9616
3. Vehicle Number: 01

VEHICLE IDENTIFICATION

4. Vehicle Model Year: 95
   Code the last two digits of the model year
   (99) Unknown

5. Vehicle Make (specify): 38
   ISUZU
   Applicable codes are found in your NASS Data Collection, Coding and Editing Manual.
   (99) Unknown

6. Vehicle Model (specify): 402
   RODEO 4WD
   Applicable codes are found in your NASS Data Collection, Coding and Editing Manual.
   (999) Unknown

7. Body Type: 14
   Note: Applicable codes may be found on the back of this page.

8. Vehicle Identification Number
   4S2CM58V8S4_____
   1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17
   Left justify; Slash zeros and letter Z (Ø and Z)
   No VIN—Code all zeros
   Unknown—Code all nines

9. Vehicle Special Use (This Trip): 0
   (0) No special use
   (1) Taxi
   (2) Vehicle used as school bus
   (3) Vehicle used as other bus
   (4) Military
   (5) Police
   (6) Ambulance
   (7) Fire truck or car
   (8) Other (specify): _____
   (9) Unknown

OFFICIAL RECORDS

10. Police Reported Vehicle Disposition: 1
    (0) Not towed due to vehicle damage
    (1) Towed due to vehicle damage
    (9) Unknown

11. Police Reported Travel Speed: 999
    Code to the nearest kmph (NOTE: 000 means less than 0.5 kmph)
    (160) 159.5 kmph and above
    (999) Unknown

    ___ mph X 1.6093 = ___ kmph

12. Speed Limit: 072
    (000) No statutory limit
    Code posted or statutory speed limit in kmph
    (999) Unknown

    45 mph X 1.6093 = 072 kmph

13. Police Reported Alcohol Presence For Driver: 9
    (0) No alcohol present
    (1) Yes alcohol present
    (7) Not reported
    (8) No driver present
    (9) Unknown

14. Alcohol Test Result For Driver: 03
    Code actual value (decimal implied before first digit—0.xx) 0.034
    (95) Test refused
    (96) None given
    (97) AC test performed, results unknown
    (98) No driver present
    (99) Unknown

    Source: _____

15. Police Reported Other Drug Presence For Driver: 1
    (0) No other drug(s) present
    (1) Yes other drug(s) present
    (7) Not reported
    (8) No driver present
    (9) Unknown

16. Other Drug Specimen Test Result For Driver: Z
    (0) No specimen test given
    (1) Drug(s) not found in specimen
    (2) Drug(s) found in specimen, (specify): CAFFEINE
    (3) Specimen test given, results unknown or not obtained
    (8) No driver present
    (9) Unknown if specimen test given

17. Driver's Zip Code: _____
    (00001) Driver not a resident of U.S. or territories
    47401 Code actual 5-digit zip code
    (99998) No driver present
    (99999) Unknown

18. Driver's Race/Ethnic Origin: 1
    (1) White (non-Hispanic)
    (2) Black (non-Hispanic)
    (3) White (Hispanic)
    (4) Black (Hispanic)
    (5) American Indian, Eskimo or Aleut
    (6) Asian or Pacific Islander
    (7) Other (specify): _____
    (8) No driver present
    (9) Unknown

CODES FOR BODY TYPE

CDS APPLICABLE VEHICLES

Automobiles

(01) Convertible (excludes sun-roof, t-bar)
(02) 2-door sedan, hardtop, coupe
(03) 3-door/2-door hatchback
(04) 4-door sedan, hardtop
(05) 5-door/4-door hatchback
(06) Station wagon (excluding van and truck based)
(07) Hatchback, number of doors unknown
(08) Other automobile type (specify):

_____

(09) Unknown automobile type

Automobile Derivatives

(10) Auto based pickup (includes El Camino, Caballero, Ranchero, Brat, and Rabbit pickup)
(11) Auto based panel (cargo station wagon, auto based ambulance/hearse)
(12) Large limousine - more than four side doors or stretched chassis
(13) Three-wheel automobile or automobile derivative

Utility Vehicles (≤ 4,536 kgs GVWR)

(14) Compact utility (Jeep CJ-2 - CJ-7, Scrambler, Golden Eagle, Renegade, Laredo, Wrangler, Cherokee [84 and after], Dispatcher, Raider, Bronco II, Bronco [76 and before], Explorer, S-10 Blazer, Geo Tracker, Bravada, S-15 Jimmy, Thing, Pathfinder, Trooper, Trooper II, Rodeo, Amigo, Navajo, 4-Runner, Montero, Passport, Samurai, Sidekick, Rocky)
(15) Large utility (includes Jeep Cherokee [83 and before], Ramcharger, Trailduster, Bronco-fullsize [78 and after], fullsize Blazer, fullsize Jimmy, Hummer, Landcruiser, Rover, Scout, Yukon)
(16) Utility station wagon (Chevy Suburban, GMC Suburban, Travelall, Grand Wagoneer, includes suburban limousine)
(19) Utility, unknown body type

Van Based Light Trucks (≤ 4,536 kgs GVWR)

(20) Minivan (Town and Country, Caravan, Grand Caravan, Voyager, Grand Voyager, Mini-Ram, Vista, Aerostar, Windstar, Villager, Lumina APV, Trans Sport, Silhouette, Astro, Safari, Toyota Van, Toyota Minivan, Previa, Nissan Minivan, Quest, Mitsubishi Minivan, Expo Wagon, Vanagon/Camper.)
(21) Large van (B150-B350, Sportsman, Royal, Maxiwagon, Ram, Tradesman, Voyager [83 and before], E150-E350, Econoline, Clubwagon, Chateau, G10-G30, Chevy Van, Beauville, Sport Van, G15-G35, Rally Van, Vandura.)
(22) Step van or walk-in van (≤ 4,536 kgs GVWR)
(23) Van based motorhome (≤ 4,536 kgs GVWR)
(24) Van based school bus (≤ 4,536 kgs GVWR)
(25) Van based other bus (≤ 4,536 kgs GVWR)
(28) Other van type (Hi-Cube Van, Kary) (specify):

_____

(29) Unknown van type

Light Conventional Trucks (Pickup style cab, ≤ 4,536 kgs GVWR)

(30) Compact pickup (D50, Colt P/U, Ram 50, Dakota, Arrow Pickup [foreign], Ranger, Courier, S-10 , T-10, LUV, S-15, T-15, Sonoma, Datsun/Nissan Pickup, P'up, Mazda Pickup, Toyota Pickup, Mitsubishi Pickup)
(31) Large Pickup (Jeep Pickup, Comanche, Ram Pickup, D100-D350, W100-W350, F100-F350, C10-C35, K10-K35, R10-R35, V10-V35, Silverado, Sierra, R100-R500, T100)
(32) Pickup with slide-in camper
(33) Convertible pickup
(39) Unknown pickup style light conventional truck type

Other Light Trucks (≤ 4,536 kgs GVWR)

(40) Cab chassis based (includes rescue vehicles, light stake, dump, and tow truck)
(41) Truck based panel
(42) Light truck based motorhome (chassis mounted)
(45) Other light conventional truck type
(48) Unknown light truck type
(49) Unknown light vehicle type (automobile, utility, van, or light truck)

OTHER VEHICLES

Buses (Excludes Van Based)

(50) School bus (designed to carry students, not cross country or transit)
(58) Other bus type (e.g., transit, intercity, bus based motorhome) (specify):

_____

(59) Unknown bus type

Medium/Heavy Trucks (> 4,536 kgs GVWR)

(60) Step van (> 4,536 kgs GVWR)
(61) Single unit straight truck (4,536 kgs < GVWR ≤ 8,845 kgs)
(62) Single unit straight truck (8,845 kgs < GVWR ≤ 11,793 kgs)
(63) Single unit straight truck (> 11,793 kgs GVWR)
(64) Single unit straight truck, GVWR unknown
(65) Medium/heavy truck based motorhome
(67) Truck-tractor with no cargo trailer
(68) Truck-tractor pulling one trailer
(69) Truck-tractor pulling two or more trailers
(70) Truck-tractor (unknown if pulling trailer)
(78) Unknown medium/heavy truck type
(79) Unknown truck type (light/medium/heavy)

Motored Cycles (Does Not Include All-Terrain Vehicles/Cycles)

(80) Motorcycle
(81) Moped (motorized bicycle)
(82) Three-wheel motorcycle or moped
(88) Other motored cycle (minibike, motorscooter) (specify):_____
(89) Unknown motored cycle type

Other Vehicles

(90) ATV (All-Terrain Vehicle) and ATC (All-Terrain Cycle)
(91) Snowmobile
(92) Farm equipment other than trucks
(93) Construction equipment other than trucks
(97) Other vehicle type
(99) Unknown body type

PRECRASH ENVIRONMENTAL DATA

19. Relation To Interchange Or Junction: 0
- (0) Non-interchange area and non-junction
- (1) Interchange area related

Non-Interchange junctions
- (2) Intersection related
- (3) Driveway, alley access related
- (4) Other junction (specify) _____
- (5) Unknown type of junction
- (9) Unknown

20. Trafficway Flow: 0
- (0) Not physically divided (two way traffic)
- (1) Divided trafficway-median strip without positive barrier
- (2) Divided trafficway-median strip with positive barrier
- (3) One way traffic
- (9) Unknown

21. Number Of Travel Lanes: 2
- (1) One
- (2) Two
- (3) Three
- (4) Four
- (5) Five
- (6) Six
- (7) Seven or more
- (9) Unknown

22. Roadway Alignment: 3
- (1) Straight
- (2) Curve right
- (3) Curve left
- (9) Unknown

23. Roadway Profile: 4
- (1) Level
- (2) Uphill grade (>2%)
- (3) Hill crest
- (4) Downhill grade (>2%)
- (5) Sag
- (9) Unknown

24. Roadway Surface Type: 2
- (1) Concrete
- (2) Bituminous (asphalt)
- (3) Brick or block
- (4) Slag, gravel, or stone
- (5) Dirt
- (8) Other (specify): _____
- (9) Unknown

25. Roadway Surface Condition: 2
- (1) Dry
- (2) Wet
- (3) Snow or slush
- (4) Ice
- (5) Sand, dirt, or oil
- (8) Other (specify): _____
- (9) Unknown

26. Light Conditions: 2
- (1) Daylight
- (2) Dark
- (3) Dark, but lighted
- (4) Dawn
- (5) Dusk
- (9) Unknown

27. Atmospheric Conditions: 0
- (0) No adverse atmospheric-related driving conditions
- (1) Rain
- (2) Sleet/hail
- (3) Snow
- (4) Fog
- (5) Rain and fog
- (6) Sleet and fog
- (7) Other (e.g., smog, smoke, blowing sand or dust, etc.) (specify): _____
- (9) Unknown

28. Traffic Control Device: 6
- (0) No traffic control(s)
- (1) Traffic control signal (not RR crossing)

Regulatory
- (2) Stop sign
- (3) Yield sign
- (4) School zone sign
- (5) Other regulatory sign (specify): _____
- (6) Warning sign (not RR crossing)
- (7) Unknown sign
- (8) Miscellaneous/other controls including RR controls (specify): _____
- (9) Unknown

29. Traffic Control Device Functioning: 2
- (0) No traffic control device
- (1) Traffic control device not functioning (specify): _____
- (2) Traffic control device functioning properly
- (9) Unknown

PRECRASH DRIVER RELATED DATA

30. Driver's Distraction/Inattention To Driving (Prior To Recognition Of Critical Event) 9 9
(00) No driver present
(01) Attentive or not distracted
(02) Looked but did not see

Distractions
(03) By other occupant(s), (specify): _____
(04) By moving object in vehicle (specify): _____
(05) While talking or listening to cellular phone (specify location and type of phone): _____
(06) While dialing cellular phone (specify location and type of phone): _____
(07) While adjusting climate controls
(08) While adjusting radio, cassette, CD (specify): _____
(09) While using other device/controls integral to vehicle (specify): _____
(10) While using or reaching for device/object brought into vehicle (specify): _____
(11) Sleepy or fell asleep
(12) Distracted by outside person, object, or event (specify): _____
(13) Eating or drinking
(14) Smoking related
(97) Distracted/inattentive, details unknown
(98) Other, distraction (specify): _____
(99) Unknown

31. Pre-Event Movement (Prior to Recognition of Critical Event) 1 4
(00) No driver present
(01) Going straight
(02) Decelerating in traffic lane
(03) Accelerating in traffic lane
(04) Starting in traffic lane
(05) Stopped in traffic lane
(06) Passing or overtaking another vehicle
(07) Disabled or parked in travel lane
(08) Leaving a parking position
(09) Entering a parking position
(10) Turning right
(11) Turning left
(12) Making a U-turn
(13) Backing up (other than for parking position)
(14) Negotiating a curve
(15) Changing lanes
(16) Merging
(17) Successful avoidance maneuver to a previous critical event
(97) Other (specify): _____
(99) Unknown

32. Critical Precrash Event 5 4

THIS VEHICLE LOSS OF CONTROL DUE TO:
(01) Blow out or flat tire
(02) Stalled engine
(03) Disabling vehicle failure (e.g., wheel fell off) (specify): _____
(04) Non-disabling vehicle problem (e.g., hood flew up) (specify): _____
(05) Poor road conditions (puddle, pot hole, ice, etc.) (specify): _____
(06) Traveling too fast for conditions
(08) Other cause of control loss (specify): _____
(09) Unknown cause of control loss

THIS VEHICLE TRAVELLING
(10) Over the lane line on left side of travel lane
(11) Over the lane line on right side of travel lane
(12) Off the edge of the road on the left side
(13) Off the edge of the road on the right side
(14) End departure
(15) Turning left at intersection
(16) Turning right at intersection
(17) Crossing over (passing through) intersection
(18) This vehicle decelerating
(19) Unknown travel direction

OTHER MOTOR VEHICLE IN LANE
(50) Other vehicle stopped
(51) Traveling in same direction with lower steady speed
(52) Traveling in same direction while decelerating
(53) Traveling in same direction with higher speed
(54) Traveling in opposite direction
(55) In crossover
(56) Backing
(59) Unknown travel direction of other motor vehicle in lane

OTHER MOTOR VEHICLE ENCROACHING INTO LANE
(60) From adjacent lane (same direction)—over left lane line
(61) From adjacent lane (same direction)—over right lane line
(62) From opposite direction—over left lane line
(63) From opposite direction—over right lane line
(64) From parking lane
(65) From crossing street, turning into same direction
(66) From crossing street, across path
(67) From crossing street, turning into opposite direction
(68) From crossing street, intended path not known
(70) From driveway, turning into same direction
(71) From driveway, across path
(72) From driveway, turning into opposite direction
(73) From driveway, intended path not known
(74) From entrance to limited access highway
(78) Encroachment by other vehicle—details unknown

PEDESTRIAN, PEDALCYCLIST, OR OTHER NONMOTORIST
(80) Pedestrian in roadway
(81) Pedestrian approaching roadway
(82) Pedestrian—unknown location
(83) Pedalcyclist or other nonmotorist in roadway (specify): _____
(84) Pedalcyclist or other nonmotorist approaching roadway, (specify): _____
(85) Pedalcyclist or other nonmotorist—unknown location (specify): _____

OBJECT OR ANIMAL
(87) Animal in roadway
(88) Animal approaching roadway
(89) Animal—unknown location
(90) Object in roadway
(91) Object approaching roadway
(92) Object—unknown location
(98) Other critical precrash event (specify): _____
(99) Unknown

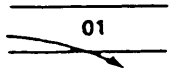
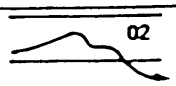
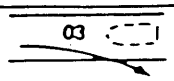
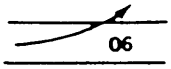
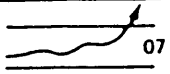
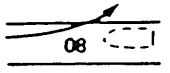
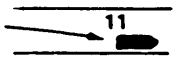
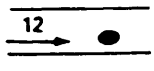
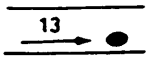
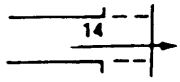
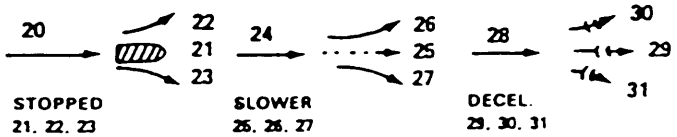
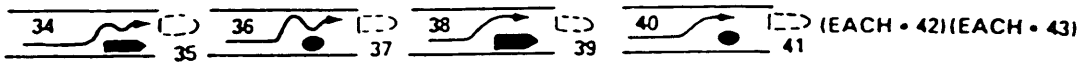
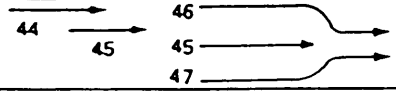
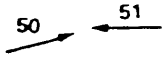
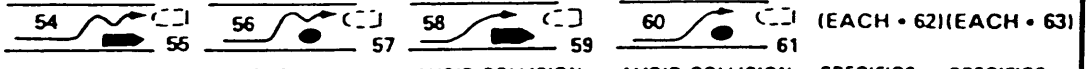
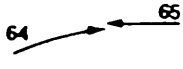
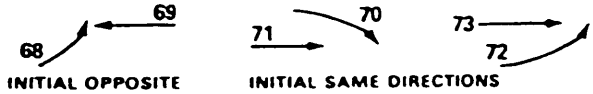
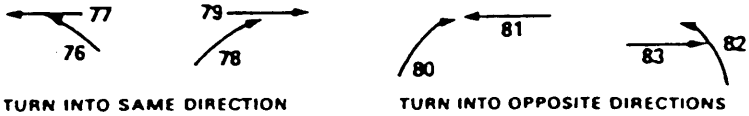
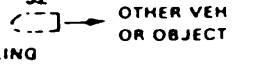
33. Attempted Avoidance Maneuver 09
(00) No driver present
(01) No avoidance maneuver
(02) Braking (no lockup)
(03) Braking (lockup)
(04) Braking (lockup unknown)
(05) Releasing brakes
(06) Steering left
(07) Steering right
(08) Braking and steering left
(09) Braking and steering right
(10) Accelerating
(11) Accelerating and steering left
(12) Accelerating and steering right
(98) Other action (specify):
_____
(99) Unknown

34. Pre-Impact Stability 2
(0) No driver present
(1) Tracking
(2) Skidding longitudinally—rotation less than 30 degrees
(3) Skidding laterally—clockwise rotation
(4) Skidding laterally—counterclockwise rotation
(7) Other vehicle loss-of-control (specify):
_____
(9) Precrash stability unknown

35. Pre-Impact Location 4
(0) No driver present
(1) Stayed in original travel lane
(2) Stayed on roadway but left original travel lane
(3) Stayed on roadway, not known if left original travel lane
(4) Departed roadway
(5) Remained off roadway
(6) Returned to roadway
(7) Entered roadway
(9) Unknown

36. Accident Type 51
(Note: Applicable codes on back of this page)
(00) No impact
Code the number of the diagram that best describes the accident circumstance
(98) Other accident type (specify):
_____
(99) Unknown

STOP HERE IF GV07 DOES NOT EQUAL 01 - 49

Category	Configuration	ACCIDENT TYPES (Includes Intent)				
I Single Driver	A Right Roadside Departure	 01 DRIVE OFF ROAD	 02 CONTROL/ TRACTION LOSS	 03 AVOID COLLISION WITH VEH., PED., ANIM.	04 SPECIFICS OTHER	05 SPECIFICS UNKNOWN
	B Left Roadside Departure	 06 DRIVE OFF ROAD	 07 CONTROL/ TRACTION LOSS	 08 AVOID COLLISION WITH VEH., PED., ANIM.	09 SPECIFICS OTHER	10 SPECIFICS UNKNOWN
	C Forward Impact	 11 PARKED VEH.	 12 STA. OBJECT	 13 PEDESTRIAN/ ANIMAL	 14 END DEPARTURE	15 SPECIFICS OTHER	16 SPECIFICS UNKNOWN
II Same Trafficway Same Direction	D Rear-End	 20 22 21 23 STOPPED 21, 22, 23 24 26 25 27 SLOWER 25, 26, 27 28 30 29 31 DECEL. 29, 30, 31				(EACH • 32) SPECIFICS OTHER	(EACH • 33) SPECIFICS UNKNOWN
	E Forward Impact	 34 35 CONTROL/ TRACTION LOSS 36 37 CONTROL/ TRACTION LOSS 38 39 AVOID COLLISION WITH VEH. 40 41 AVOID COLLISION WITH OBJECT				SPECIFICS OTHER (EACH • 42)	SPECIFICS UNKNOWN (EACH • 43)
	F Sideswipe Angle	 44 45 46 45 47				(EACH • 48) SPECIFICS OTHER	(EACH • 49) SPECIFICS UNKNOWN
III Same Trafficway Opposite Direction	G Head-On	 50 51 LATERAL MOVE	(EACH • 52) SPECIFICS OTHER			(EACH • 53) SPECIFICS UNKNOWN	
	H Forward Impact	 54 55 CONTROL/ TRACTION LOSS 56 57 CONTROL/ TRACTION LOSS 58 59 AVOID COLLISION WITH VEH. 60 61 AVOID COLLISION WITH OBJECT				SPECIFICS OTHER (EACH • 62)	SPECIFICS UNKNOWN (EACH • 63)
	I Sideswipe Angle	 64 65 LATERAL MOVE	(EACH • 66) SPECIFICS OTHER			(EACH • 67) SPECIFICS UNKNOWN	
IV Change Trafficway Vehicle Turning	J Turn Across Path	 68 69 INITIAL OPPOSITE DIRECTIONS 71 70 73 72 INITIAL SAME DIRECTIONS				SPECIFICS OTHER (EACH • 74)	SPECIFICS UNKNOWN (EACH • 75)
	K Turn Into Path	 77 76 79 78 TURN INTO SAME DIRECTION 81 80 83 82 TURN INTO OPPOSITE DIRECTIONS				SPECIFICS OTHER (EACH • 84)	SPECIFICS UNKNOWN (EACH • 85)
V Intersecting Paths (Vehicle Damage)	L Straight Paths	 87 86 88 89				(EACH • 90) SPECIFICS OTHER	(EACH • 91) SPECIFICS UNKNOWN
VI Miscellaneous	M Backing Etc	 92 BACKING VEH 93 OTHER VEH OR OBJECT				98 Other Accident Type 99 Unknown Accident Type 00 No Impact	

OCCUPANT RELATED

37. Driver Presence in Vehicle — 1
(0) Driver not present
(1) Driver present
(9) Unknown

38. Number of Occupants This Vehicle — 02
(00-96) Code actual number of occupants for this vehicle
(97) 97 or more
(99) Unknown

39. Number of Occupant Forms Submitted — 02

AIR BAG RELATED

40. Is this an AOPS Vehicle? — 1
(0) No (includes unknown)
(1) Yes - researcher determined
(2) VIN determined air bag system
(3) VIN determined automatic (passive) belts
(4) VIN determined air bag and automatic (passive) belts

41. Air Bag(s) Deployment, First Seat Frontal — 6
(0) Not equipped or not available
(1) No air bags deployed

Single Air Bag Vehicle
(2) Driver air bag deployed
(3) Driver air bag, unknown if deployed

Multiple Air Bag Vehicle
(4) Driver side only deployed
(5) Passenger side only deployed
(6) Driver and passenger side deployed
(7) Driver and passenger side unknown if deployed
(8) Air bag(s) deployed, details unknown
(9) Unknown

42. Air Bag(s) Deployment, Other Than First Seat Frontal — 0
(0) Not equipped with an "other" air bag
(1) Deployed during accident (as a result of impact)
(2) Deployed inadvertently just prior to accident
(3) Deployed, details unknown
(4) Deployed as a result of a noncollision event during accident sequence (e.g., fire, explosion, electrical)
(5) Unknown if deployed
(7) Nondeployed
(9) Unknown

Specify type of "other" air bag present: _____

VEHICLE WEIGHT ITEMS

43. Vehicle Curb Weight — 1,830
____ Code weight to nearest 10 kilograms.
(045) Less than 454 kilograms
(612) 6,124 kilograms or more
(999) Unknown
4030 lbs X 4536 = 1828 kgs

Source: _____

44. Vehicle Cargo Weight — 0,000
0 Code weight to nearest 10 kilograms.
(000) Less than 5 kilograms
(454) 4,536 kilograms or more
(999) Unknown
____,___ ___ lbs X .4536 = ___,___ ___ kgs

Source: _____

ROLLOVER DATA

45. Rollover — 00
(00) No rollover (no overturning)

Rollover (primarily about the longitudinal axis)
(01-16) Code the number of quarter turns
(17) Rollover, 17 or more quarter turns
(specify): _____
(98) Rollover--end-over-end (i.e., primarily about the lateral axis)
(99) Rollover (overturn), details unknown

46. Rollover Initiation Type — 00
(00) No rollover
(01) Trip-over
(02) Flip-over
(03) Turn-over
(04) Climb-over
(05) Fall-over
(06) Bounce-over
(07) Collision with another vehicle
(08) Other rollover initiation type specify):
_____
(98) Rollover--end-over-end
(99) Unknown rollover initiation type

47. Location of Rollover Initiation — 0
(0) No rollover
(1) On roadway
(2) On shoulder—paved
(3) On shoulder—unpaved
(4) On roadside or divided trafficway median
(8) Rollover--end-over-end
(9) Unknown

48. Rollover Initiation Object Contacted — 00
(Note: Applicable codes on back of page)

49. Location on Vehicle Where Initial Principal Tripping Force Is Applied — 0
(0) No rollover
(1) Wheels/tires
(2) Side plane
(3) End plane
(4) Undercarriage
(5) Other location on vehicle (specify):
_____
(6) Non-contact rollover forces (specify):
_____
(8) Rollover--end-over-end
(9) Unknown

50. Direction of Initial Roll — 0
(0) No rollover
(1) Roll right - primarily about the longitudinal axis
(2) Roll left - primarily about the longitudinal axis
(8) Rollover--end-over-end
(9) Unknown roll direction

OVERRIDE/UNDERRIDE (THIS VEHICLE)

51. Front Override/Underride (this Vehicle) 0

52. Rear Override/Underride (this Vehicle) 0

(0) No override/underride, or not an end-to-end impact between two CDS applicable vehicles, and no medium/heavy truck or bus underride

Override (see specific CDC)

(Between 2 CDS applicable vehicles (Bodytype, GV07 = 1-49))

(1) 1st CDC
(2) 2nd CDC
(3) Other not automated CDC (specify):

_____

Underride (see specific CDC)

(Between 2 CDS applicable vehicles (Bodytype, GV07 = 1-49))

(4) 1st CDC
(5) 2nd CDC
(6) Other not automated CDC (specify):

_____

(7) Medium/heavy truck or bus override (of any configuration)
(9) Unknown

HEADING ANGLE AT IMPACT FOR HIGHEST DELTA V

Values: (000)-(359) Code actual value
(996) Non-horizontal impact
(997) Noncollision
(998) Impact with object
(999) Unknown

53. Heading Angle For This Vehicle 090

54. Heading Angle For Other Vehicle 245

RECONSTRUCTION DATA

55. Towed Trailing Unit 0
(0) No towed unit
(1) Yes—towed trailing unit
(9) Unknown

56. Documentation of Trajectory Data for This Vehicle 1
(0) No
(1) Yes

57. Post Collision Condition of Tree or Pole (For Highest Delta V) 0
(0) Not collision (for highest delta V) with tree or pole
(1) Not damaged
(2) Cracked/sheared
(3) Tilted <45 degrees
(4) Tilted ≥45 degrees
(5) Uprooted tree
(6) Separated pole from base
(7) Pole replaced
(8) Other (specify):

_____

(9) Unknown

ACCIDENT RECONSTRUCTION PROGRAMS HIGHEST DELTA V

58. Basis for Total (Resultant) Delta V (highest) 03

(00) No vehicle inspection

Delta V Calculated

(01) Reconstruction program-damage only routine
(02) Reconstruction program-damage and trajectory routine
(03) Missing vehicle algorithm

Delta V Not Calculated

(04) At least one vehicle (which may be this vehicle) is beyond the scope of an acceptable reconstruction program, regardless of collision conditions.

All vehicles within scope (CDC applicable) of reconstuction program but one of the collision conditions is beyond the scope of the reconstruction program or other acceptable reconstruction technique, regardless of adequacy of damage data.

(05) Rollover
(06) Other non-horizontal forces
(07) Sideswipe type damage
(08) Severe override
(09) Yielding object
(10) Overlapping damage
(11) All vehicle and collision conditions are within scope of one of the acceptable reconstruction programs, but there is insufficient data available, (specify):

_____

_____

(98) Other, (specify): _____

_____

COMPUTER GENERATED CRASH SEVERITY

59. Total Delta V — Highest: 044

44 Nearest kmph (highest)

_____ Nearest kmph (secondary)

(NOTE: 000 means less than 0.5 kmph)
(160) 159.5 kmph and above
(999) Unknown

60. Longitudinal Component of Delta V — Highest: ± 041

-41 Nearest kmph (highest)

_____ Nearest kmph (secondary)

(NOTE: _000 means greater than -0.5 kmph and less than +0.5 kmph)
(±160) ±159.5 kmph and above
(_999) Unknown

61. Lateral Component of Delta V — Highest: ± 015

+15 Nearest kmph (highest)

_____ Nearest kmph (secondary)

(NOTE: _000 means greater than -0.5 kmph and less than +0.5 kmph)
(±160) ±159.5 kmph and above
(_999) Unknown

62. Energy Absorption — Highest: 168.900

168,912 Nearest 100 joules (highest)

_____ Nearest 100 joules (secondary)

(NOTE: 0000 means less than 50 joules)
(9997) 999,650 joules or more
(9999) Unknown

63. Impact Speed — Highest: 998

_____ Nearest kmph (highest)

_____ Nearest kmph (secondary)

(NOTE: 000 means less than 0.5 kmph)
(160) 159.5 kmph and above
(998) Trajectory algorithm not run
(999) Unknown

DELTA V CONFIDENCE LEVEL

64. Confidence In Reconstruction Program Results (For Highest Delta V) 3
(0) No reconstruction
(1) Collision fits model — results appear reasonable
(2) Collision fits model — results appear high
(3) Collision fits model — results appear low
(4) Borderline reconstruction — results appear reasonable

OTHER SPEED ESTIMATE

65. Barrier Equivalent Speed — Highest: 047

46.6 Nearest kmph (highest)

_____ Nearest kmph (secondary)

(NOTE: 000 means less than 0.5 kmph)
(160) 159.5 kmph and above
(999) Unknown

ESTIMATED DELTA V

66. Estimated Highest Delta V (Researcher Determined) 0
(0) Reconstruction Delta V coded

Estimated Delta V
(1) Less than 10 kmph
(2) ≥ 10 kmph but < 25 kmph
(3) ≥ 25 kmph but < 40 kmph
(4) ≥ 40 kmph but < 55 kmph
(5) ≥ 55 kmph

Other estimates of damage severity
(6) Minor
(7) Moderate
(8) Severe

(9) Unknown

INSPECTION TYPE

67. Type of Vehicle Inspection 3
(0) No inspection
(1) Vehicle fully repaired-no damage evident
(2) Partial inspection (specify): _____
(3) Complete inspection

DELTA V EVENT NUMBER

68. Delta V Event Number 1
_____ Code the accident event sequence number that resulted in the Delta V that has been coded above for this vehicle
(99) Unknown

*** IF THE CDS APPLICABLE VEHICLE WAS NOT INSPECTED (I.E., GV67 = 0), ***

DO NOT COMPLETE THE EXTERIOR AND INTERIOR VEHICLE FORMS

*** IF GV07 DOES NOT EQUAL 01-49, DO NOT COMPLETE ***

THE EXTERIOR VEHICLE, INTERIOR VEHICLE,

OCCUPANT ASSESSMENT, AND OCCUPANT INJURY FORMS.

BEST AVAILABLE

U.S. Department of Transportation
National Highway Traffic Safety Administration

EXTERIOR VEHICLE FORM

NATIONAL ACCIDENT SAMPLING SYSTEM
CRASHWORTHINESS DATA SYSTEM

1. Primary Sampling Unit Number: 10	3. Vehicle Number: 01
2. Case Number - Stratum: 9616	

VEHICLE IDENTIFICATION

VIN: 4S2CM58V8S4_____ Model Year: 95

Vehicle Make (specify): ISUZU Vehicle Model (specify): RODEO 4WD

LOCATOR

Locate the end of the damage with respect to the vehicle's damaged center point or bumper corner for end impacts or an undamaged axle for side impacts.

Specific Impact No.	Location of Direct Damage	Location of Field L	Location of Max Crush
01	49CM IN FROM (R) BC	ACROSS FRONT BUMPER	C1

CRUSH PROFILE IN CENTIMETERS

NOTES: Identify the plane at which the C-measurements are taken (e.g., at bumper, above bumper, at sill, above sill, etc.) and label adjustments (e.g., free space).

Measure C1 to C6 from driver to passenger side in front or rear impacts and rear to front in side impacts.

Free space value is defined as the distance between the baseline and the original body contour taken at the individual C locations. This may include the following: bumper lead, bumper taper, side protrusion, side taper, etc. Record the value for each C-measurement and maximum crush.

Use as many lines/columns as necessary to describe each damage profile.

Specific Impact Number	Plane of Impact C-Measurements	Direct Damage Width (CDC)	Direct Damage Max Crush	Field L	C_1	C_2	C_3	C_4	C_5	C_6	±D
1	FRONT BUMPER	92	128	93	128	87	65	42	29	19	-29
	FREESPACE		24		24	22	20	20	22	24	
	RESULTANT		104		104	65	45	22	7	0	

ORIGINAL SPECIFICATIONS WORK SHEET

BEST AVAILABLE

Wheelbase	108.7	inches	x 2.54	=	276.1	cm
Overall Length without Tire	176.5				448.3	
with Tire	184.6	inches	x 2.54	=	468.9	cm
Branham Auto News	66.5				168.9	
Maximum Width	68.5	inches	x 2.54	=	174.0	cm
Curb Weight	4,030	pounds	x 0.4536	=	1,828.0	kg
Average Track 56.7 / 57.1	56.9	inches	x 2.54	=	144.5	cm
Front Overhang	28.7	inches	x 2.54	=	73	cm
Rear Overhang	40.0	inches	x 2.54	=	101	cm
Undeformed End Width	59.1	inches	x 2.54	=	150	cm
Engine Size: cyl/displ.		cc	x 0.001	=	3.2	L
	193	CID	x 0.0164	=	3.2	L

Branham's Shipping Weight 3,930 + 100 = 4,030

SPECIAL CRASH INVESTIGATION ADDENDUM

Submodel Designation: {specify} **Color:** {specify} White **Repair Cost:** $

Transmission: {circle} (Automatic) | Manual **Speed:** 3-speed | (4-speed) | 5-speed | Other:

Steering: {circle} (Power-assisted) | Manual **Type:** (rack-and-pinion) | worm-and-gear | Other

{please describe}:

Brakes: {circle} (Power-assisted) | Manual **Type:** 4-wheel disc | 4-wheel drum | 4-wheel hydraulic | front disc, rear drum | Other:

Observed Defects: {specify}

Fleet Type: {circle} (Private vehicle) | Rental vehicle | Leased vehicle | Commercial vehicle | Other

{please describe}:

VEHICLE DAMAGE SKETCH

TIRE–WHEEL DAMAGE

	a. Rotation physically restricted	b. Tire deflated
RF	1	2
LF	1	1
RR	2	2
LR	2	2

(1) Yes (2) No (8) NA (9) Unk.

TYPE OF TRANSMISSION
☐ Manual ☒ Automatic

END SHIFT ≥ 10 CM
☒ Yes ☐ No

ORIGINAL SPECIFICATIONS

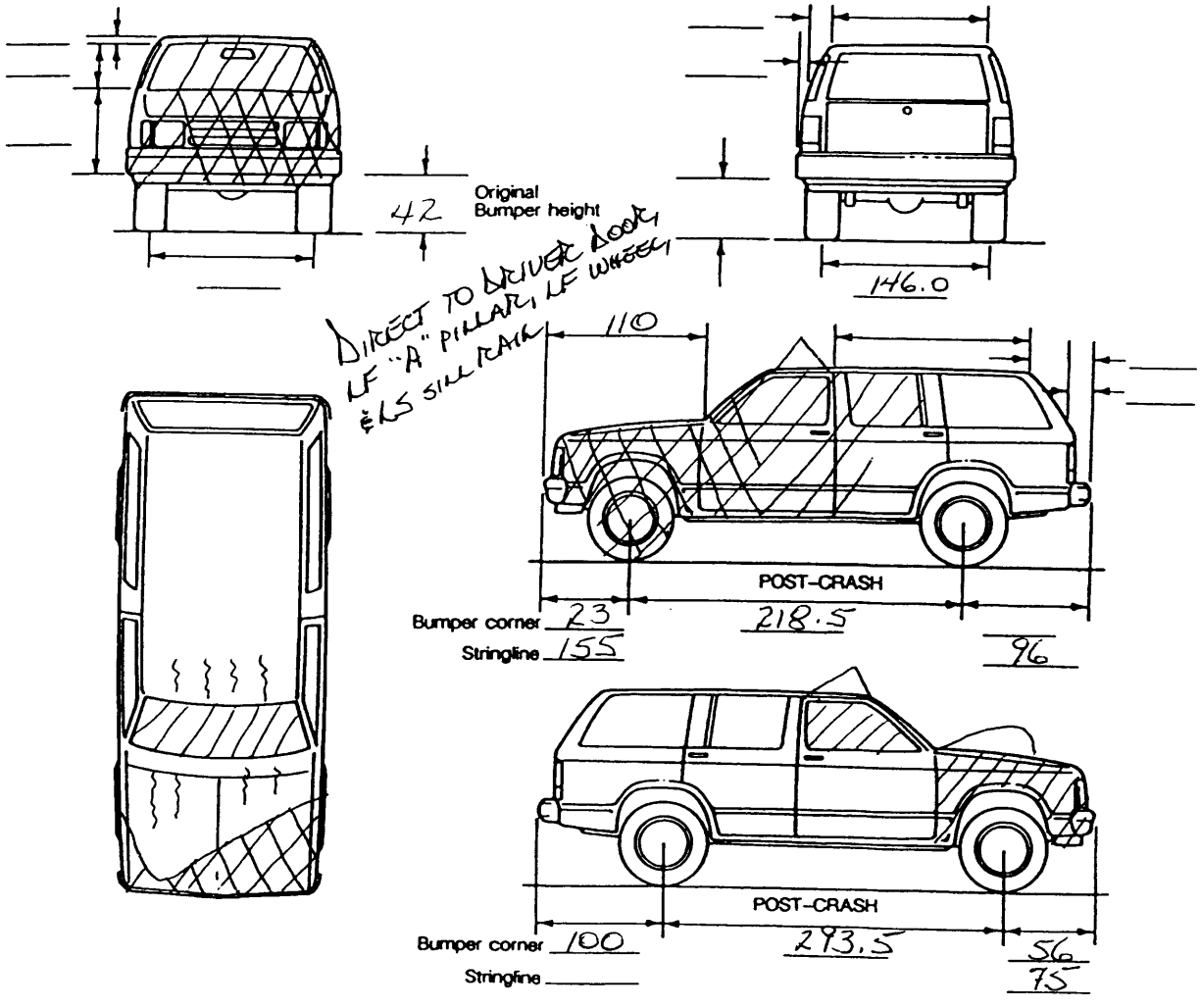
Wheelbase	276	cm
Overall Length	46	cm
Maximum Width	174.0	cm
Curb Weight	1828	kg
Average Track	145	cm
Front Overhang	73	cm
Rear Overhang	101	cm
Undeformed End Width	150	cm
Engine Size: cyl./displ.	V-6 SOHC 3.2	L

WHEEL STEER ANGLES
(For locked front wheels or displaced rear axles only)
RF ± ___ ___ °
LF ± ___ ___ °
RR ± ___ ___ °
LR ± ___ ___ °
Within ± 5 degrees

DRIVE WHEELS
☐ FWD ☐ RWD ☒ 4WD

Approximate Cargo Weight 0 kg

MEASUREMENTS IN CENTIMETERS



NOTES: Sketch new perimeter and cross hatch direct damage and single hatch induced damage on all views. Annotate observations which might be useful in reconstructing the accident (e.g., grass in tire bead, direction of striations, scuff on sidewalls, etc.). If pulling trailer, sketch type of trailer and damage received on the back of this page.
Annotate any damage caused by extrication such as component removal by torching, prying, or hydraulic shears.

Isuzu American Isuzu Motors Inc.,

Type of Body Pass. Cap.	Model	Wheel Base	Dimensions Inches Lt. x Wt. x Ht.	Ship. Wt. lb.	Tax H.P.	P.O.E. West Coast	P.O.E. East Coast
Bore & Stroke 3.68x3.03; Tax H.P 32.5; SAE H.P. 175@5200; Torque 188@4000; 193 cu.in., 3.2 liter							
Man. Trans. 5-speed; EPA Mileage Estimate 16/18							
5-PS 4-dr Utility	S	108.7"	183.5" x 72.4" x 72.2"	4135	32.5	22,450	22,450
5-PS 4-dr Utility	LS	108.7"	183.5" x 72.4" x 72.2"	4135	32.5	28,830	28,830
Auto. Trans. 4-speed; EPA Mileage Estimate 15/18							
5-PS 4-dr Utility	S	108.7"	183.5" x 72.4" x 72.2"	4175	32.5	24,950	24,950
5-PS 4-dr Utility	LS	108.7"	183.5" x 72.4" x 72.2"	4175	32.5	29,980	29,980
1995 Trooper 4WD V6 cyl 3.2 liter DOHC MPFI Gas Engine(24 valve)							
Bore & Stroke 3.68x3.03; Tax H.P 32.5; SAE H.P. 190@5600; Torque 195@3800; 193 cu.in., 3.2 liter							
Man. Trans. 5-speed; EPA Mileage Estimate 16/18							
5-PS 4-dr Utility	S	108.7"	183.5" x 72.4" x 72.2"	4135	32.5	23,800	23,800
Auto. Trans. 4-speed; EPA Mileage Estimate 14/17							
5-PS 4-dr Utility	Limited	108.7"	183.5" x 72.4" x 72.2"	4370	32.5	36,800	36,800
Options Trooper: Destination Charges-$420; Air Conditioner-$900; Calif/NY Emissions SOHC-$150 DOHC-$250; Over Fenders-$550; Split Rear Seat-$250; Limited Slip Differential-$260; 3 Channel ABS-$1100; Preferred Equipment PKG-$2760; CD Player-$550 Changer-$650; Keyless Entry System-$250							
1995 Rodeo 4L cyl 2.6 liter SOHC MPFI Gas Engine							
Bore & Stroke 3.65x3.74; Tax H.P. 21.32; SAE H.P. 120@4600; Torque 150@2600; 156 cu.in., 2.6 liter							
Man. Trans. 5-speed; EPA Mileage Estimate 16/20							
5-PS 4-dr Utility 2WD	S	108.7"	176.5" x 66.5" x 65.4"	3425	21.32	15,840	15,840
1995 Rodeo V6 cyl 3.2 liter SOHC MPFI Gas Engine(24 valve)							
Bore & Stroke 3.68x3.03; Tax H.P 32.5; SAE H.P. 175@5200; Torque 188@4000; 193 cu.in., 3.2 liter							
Man. Trans. 5-speed; EPA Mileage Estimate 16/19							
5-PS 4-dr Utility 2WD	S	108.7"	176.5" x 66.5" x 65.4"	3635	32.5	18,500	18,500
5-PS 4-dr Utility 4WD	S	108.7"	176.5" x 66.5" x 65.4"	3875	32.5	20,340	20,340
5-PS 4-dr Utility 4WD	LS	108.7"	176.5" x 66.5" x 65.4"	3875	32.5	25,110	25,110
5-PS 4-dr Utility 4WD w/P245	S	108.7"	176.5" x 68.5" x 66.3"	3850	32.5		
Auto. Trans. 4-speed; EPA Mileage Estimate 2WD 16/19 4WD 15/18							
5-PS 4-dr Utility 2WD	S	108.7"	176.5" x 66.5" x 65.4"	3690	32.5	19,420	19,420
5-PS 4-dr Utility 2WD	LS	108.7"	176.5" x 66.5" x 65.4"	3690	32.5	23,990	23,990
5-PS 4-dr Utility 4WD	S	108.7"	176.5" x 66.5" x 65.4"	3930	32.5	21,490	21,490
5-PS 4-dr Utility 4WD	LS	108.7"	176.5" x 66.5" x 65.4"	3930	32.5	26,260	26,260
5-PS 4-dr Utility 4WD w/P245	S	108.7"	176.5" x 68.5" x 66.3"	3905	32.5		
Options Rodeo: Destination Charges-$410; Air Conditioner-$850; Calif/NY Emissions-$150; Bright Pkg 2WD-$950 4WD-$1510; Rear Wiper/Washer(2.6 L)-$185; Sunroof-$300; Limited Slip Differential(4WD LS)-$260; w/16" AL Wheels(4WD S)-$990; Preferred Equipment PKG-$2350; Outside Spare Tire Carrier(2.6L)-$275; Sport Side Step 4WD-$345; AM/FM Strero w/cassette-$585; CD-$550; Brush/Grille Guard-$305; Aero Roof Rack-$195; Floor Mats-$55; Keyless Security System-$350; Running Board-$270; Exterior Appearance Pkg (2.6L)-$349							
1995 Pickup 4 cyl 2.3 liter SOHC MPFI Gas Engine							
Bore & Stroke 3.52x3.54; Tax H.P. 19.83; SAE H.P. 100@4600; Torque 123@2600; 138 cu.in., 2.3 liter							
Man. Trans. 5-speed; EPA Mileage Estimate 22/24							
2-PS 2-dr Std Bed 2WD	S	105.6"	177.3" x 66.6" x 64.2"	2785	19.83	9,999	9,999
2-PS 2-dr Long Bed 2WD	S	119.2"	193.8" x 66.6" x 64.2"	2860	19.83	11,409	11,409
1995 Pickup 4 cyl 2.6 liter SOHC MPFI Gas Engine							
Bore & Stroke 3.65x3.74; Tax H.P. 21.32; SAE H.P. 120@4600; Torque 150@2600; 156 cu.in., 2.6 liter							
Man. Trans. 5-speed; EPA Mileage Estimate (4WD) 17/20							
2-PS 2-dr Std Bed 4WD	S	105.6"	177.3" x 66.6" x 68.5"	3285	21.32	14,119	14,119
2-PS 2-dr Std Bed 4WD w/10.5R	S	105.6"	177.3" x 68.5" x 69.7"	3285	21.32	15,264	15,264
Options Pickup: Destination Charges-$400; Calif/NY Emissions-$250; Power Steering (2.3L)-$325; 10.5 R Tire/ Al Wheel Pkg (4WD)-$1145; Air Conditioning-$830; AM/FM Stereo w/cassette-$405; Brush/Grille Guard-$305; Black Step Bumper-$165							

Isuzu American Isuzu Motors Inc.,

1996 Oasis 2.2 liter 4 cyl SOHC FI Gas Engine(16 valve)							
Bore & Stroke 3.346x3.74; Tax H.P 17.92; SAE H.P. 140@5600; Torque 145@4600; 132 cu.in., 2156cc							
Auto. Trans. 4-speed; EPA Mileage Estimate 15/18							
7-PS 4-dr MiniVan	S	111.4"	187.2" x 70.6" x 64.6"	3473	17.92	23,495	23,495
7-PS 4-dr MiniVan	LS	111.4"	187.2" x 70.6" x 64.6"	3483	17.92	25,990	25,990
Options Oasis: Destination Charges-$445; Cruise Control-$235; CD Player-$470; Roof Rack-$230							
1996 Trooper 4WD V6 cyl 3.2 liter SOHC SFI Gas Engine(24 valve)							
Bore & Stroke 3.677"x3.031"; Tax H.P 32.45; SAE H.P. 190@5600; Torque 188@4000; 193 cu.in., 3165cc							
Man. Trans. 5-speed; EPA Mileage Estimate 16/18							
5-PS 4-dr Utility	S	108.7"	183.5" x 72.2" x 72.2"	4135	32.45	25,360	25,360
Auto. Trans. 4-speed; EPA Mileage Estimate 15/18							

CDC WORKSHEET

CODES FOR OBJECT CONTACTED

(01-30) — Vehicle Number

Noncollision
- (31) Overturn — rollover (excludes end-over-end)
- (32) Rollover—end-over-end
- (33) Fire or explosion
- (34) Jackknife
- (35) Other intraunit damage (specify): _____
- (36) Noncollision injury
- (38) Other noncollision (specify): _____
- (39) Noncollision — details unknown

Collision With Fixed Object
- (41) Tree (≤ 10 cm in diameter)
- (42) Tree (> 10 cm in diameter)
- (43) Shrubbery or bush
- (44) Embankment
- (45) Breakaway pole or post (any diameter)

Nonbreakaway Pole or Post
- (50) Pole or post (≤ 10 cm in diameter)
- (51) Pole or post (> 10 cm but ≤ 30 cm in diameter)
- (52) Pole or post (> 30 cm in diameter)
- (53) Pole or post (diameter unknown)
- (54) Concrete traffic barrier
- (55) Impact attenuator
- (56) Other traffic barrier (includes guardrail) (specify): _____
- (57) Fence
- (58) Wall
- (59) Building
- (60) Ditch or culvert
- (61) Ground
- (62) Fire hydrant
- (63) Curb
- (64) Bridge
- (68) Other fixed object (specify): _____
- (69) Unknown fixed object

Collision with Nonfixed Object
- (70) Passenger car, light truck, van, or other vehicle not in-transport
- (71) Medium/heavy truck or bus not in-transport
- (72) Pedestrian
- (73) Cyclist or cycle
- (74) Other nonmotorist or conveyance _____
- (75) Vehicle occupant
- (76) Animal
- (77) Train
- (78) Trailer, disconnected in transport
- (79) Object fell from vehicle in-transport
- (88) Other nonfixed object (specify): _____
- (89) Unknown nonfixed object
- (98) Other event (specify): _____
- (99) Unknown event or object

DEFORMATION CLASSIFICATION BY EVENT NUMBER

Accident Event Sequence Number	Object Contacted	(1) (2) Direction of Force (degrees)	Incremental Value of Shift	(3) Deformation Location	(4) Specific Longitudinal or Lateral Location	(5) Specific Vertical or Lateral Location	(6) Type of Damage Distribution	(7) Deformation Extent
01	02	340	00	F	Y	E	W	05

COLLISION DEFORMATION CLASSIFICATION

HIGHEST DELTA "V"

Accident Event Sequence Number	Object Contacted	(1) (2) Direction of Force	(3) Deformation Location	(4) Longitudinal or Lateral Location	(5) Vertical or Lateral Location	(6) Type of Damage Distribution	(7) Deformation Extent
4. 01	5. 02	6. 11	7. F	8. Y	9. E	10. W	11. 05

Second Highest Delta "V"

12.	13.	14.	15.	16.	17.	18.	19.

CRUSH PROFILE IN CENTIMETERS

The crush profile for the damage described in the CDC(s) above should be documented in the appropriate space below. (ALL MEASUREMENTS ARE IN CENTIMETERS.)

HIGHEST DELTA "V"

20. L	21. C_1	C_2	C_3	C_4	C_5	C_6	22. ±D
150	104	065	045	022	007	000	±029

Second Highest Delta "V"

23. L	24. C_1	C_2	C_3	C_4	C_5	C_6	25. ±D

26. Undeformed End Width — 150
(Coded when highest severity impact is an end plane impact.)
150 Code to the nearest centimeter
(250) 250 centimeters or more
(998) No highest severity end plane impact
(999) Unknown

27. Direct Damage Width — 92
(For highest severity impact)
92 Code to the nearest centimeter
(250) 250 centimeters or more
(999) Unknown

28. Original Wheelbase — 276
276.09 Code to the nearest centimeter
(650) 650 centimeters or more
(999) Unknown
108.7 inches X 2.54 = 276 centimeters

29. Original Average Track Width — 145
144.52 Code to the nearest centimeter
(185) 185 centimeters or more
(999) Unknown
FT 56.7
RT 57.1
56.9 inches X 2.54 = 145 centimeters

30. Are CDCs Documented but Not Coded on The Automated File? 0
(0) No
(1) Yes

31. Researcher's Assessment of Vehicle Disposition 1
(0) Not towed due to vehicle damage
(1) Towed due to vehicle damage
(9) Unknown

32. Is This A Multi-Stage Manufactured Vehicle And/Or A Certified Altered Vehicle? 0
(0) No post manufacturer modifications
(1) Yes - post manufacturer modifications (specify): _____
_____
_____
(Include photograph of CERTIFICATION PLACARD in case report)
(9) Unknown if vehicle is modified

FIRE OCCURRENCE

33. Fire Occurrence 0
(0) No fire

Yes, fire occurred
(1) Minor
(2) Major
(9) Unknown

34. Origin of Fire 0
(0) No fire
(1) Vehicle exterior (front, side, back, top)
(2) Exhaust system
(3) Fuel tank (and other fuel retention system parts)
(4) Engine compartment
(5) Cargo/trunk compartment
(6) Instrument panel
(7) Passenger compartment area
(8) Other location (specify):
_____
(9) Unknown

FUEL SYSTEM

35. Location of Fuel Tank-1 Filler Cap 3

36. Location of Fuel Tank-2 Filler Cap 0
(0) No fuel tank
(1) On back plane
(2) Aft of center of the rear wheels (rear axle) on left side plane
(3) Aft of center of the rear wheels (rear axle) on right side plane
(4) Forward of center of the rear wheels (rear axle) on left side plane
(5) Forward of center of the rear wheels (rear axle) on right side plane
(6) Over the center of the rear wheels (rear axle) on left side plane
(7) Over the center of the rear wheels (rear axle) on right side plane
(8) Other (specify): _____
(9) Unknown

37. Type of Fuel Tank-1 1

38. Type of Fuel Tank-2 0
(0) No fuel tank (electrical vehicle)
(1) Metallic
(2) Non-metallic
(9) Unknown

39. Location of Fuel Tank-1 1

40. Location of Fuel Tank-2 0
(0) No fuel tank
(1) Aft of center of the rear wheels (rear axle) centered
(2) Aft of center of the rear wheels (rear axle) left side
(3) Aft of center of the rear wheels (rear axle) right side
(4) Forward of center of the rear wheels (rear axle) centered
(5) Forward of center of the rear wheels (rear axle) left side
(6) Forward of center of the rear wheels (rear axle) right side
(7) Over center of the rear wheels (rear axle)
(8) Other (specify): _____
(9) Unknown

41. Damage to Fuel Tank-1 1

42. Damage to Fuel Tank-2 0
(0) No fuel tank
(1) No damage to fuel tank
(2) Deformed, no seam failure
(3) Deformed, with a seam failure
(4) Punctured
(5) Lacerated (ripped)
(6) Abraded (scraped)
(7) Filler neck separation from the fuel tank
(8) Other damage (specify): _____
(9) Unknown

43. Leakage Location of Fuel System-1 1

44. Leakage Location of Fuel System-2 0
(0) No fuel tank
(1) No fuel leakage

Primary Area Of Leakage
(2) Tank
(3) Filler neck
(4) Cap
(5) Lines/pump/filter
(6) Vent/emission recovery
(8) Other (specify):_____
(9) Unknown

45. Fuel Type-1 01

46. Fuel Type-2 00

Single Fuel Type
(00) No fuel tank
(01) Gasoline
(02) Diesel
(03) CNG (Compressed Natural Gas)
(04) LPG (Liquid Petroleum Gas) also known as Propane
(05) LNG (Liquid Natural Gas)
(06) Methanol (M100 or M85)
(07) Ethanol (E100 or E85)
(08) Other (Hydrogen or others) (specify):
_____

Electric Powered or Electric/Solar Powered Vehicles
(10) Lead Acid Battery
(11) Nickel-Iron Battery
(12) Nickel-Cadmium Battery
(13) Sodium Metal Chloride Battery
(14) Sodium Sulfur Battery
(18) Other (Specify):_____

(98) Other Hybrid (specify):
_____

(99) Unknown fuel type

47. Is This Vehicle Equipped With More Than Two Fuel Tanks? 0
(0) No (one or two tanks only)

Yes - More Than Two Tanks
(1) Yes -- no damage to any tank or filler cap and no fuel system leakage
(2) Yes -- no damage to any tank or filler cap but there is fuel system leakage (specify leakage location):
_____
(3) Yes -- damage to an additional tank or filler cap and there is fuel system leakage (specify the following):
Type of tank _____
Tank location _____
Filler cap location _____
Tank damage _____
Location of leakage _____
Type of fuel _____
(9) Unknown if more than two tanks

COMMENTS

*** STOP: IF THE CDS APPLICABLE VEHICLE WAS NOT TOWED ***

(GV10=0)

DO NOT COMPLETE THE INTERIOR VEHICLE FORM.

U.S. Department of Transportation
National Highway Traffic Safety Administration

INTERIOR VEHICLE FORM

NATIONAL ACCIDENT SAMPLING SYSTEM
CRASHWORTHINESS DATA SYSTEM

1. Primary Sampling Unit Number: 10
2. Case Number - Stratum: 96 16
3. Vehicle Number: 01

INTEGRITY

4. Passenger Compartment Integrity: 98
(00) No integrity loss

Yes, Integrity Was Lost Through
(01) Windshield
(02) Door (side)
(03) Door/hatch (back door)
(04) Roof
(05) Roof glass
(06) Side window
(07) Rear window (backlight)
(08) Roof and roof glass
(09) Windshield and door (side)
(10) Windshield and roof
(11) Side and rear window (side window and backlight)
(12) Windshield and side window
(13) Door and side window
(98) Other combination of above (specify): WINDSHIELD, LF DOOR, SIDE WINDOWS
(99) Unknown

Door, Tailgate or Hatch Opening

5. LF 2 6. RF 3 7. LR 1 8. RR 1 9. TG/H 1

(0) No door/gate/hatch
(1) Door/gate/hatch remained closed and operational
(2) Door/gate/hatch came open during collision
(3) Door/gate/hatch jammed shut
(8) Other (specify): _____
(9) Unknown

Damage/Failure Associated with Door, Tailgate or Hatch Opening in Collision. If IV05-IV09 ≠ 2, Then code Ø

10. LF 4 11. RF 0 12. LR 1 13. RR 1 14. TG/H 1

(0) No door/gate/hatch or door not opened

Door, Tailgate or Hatch Came Open During Collision
(1) Door operational (no damage)
(2) Latch/striker failure due to damage
(3) Hinge failure due to damage
(4) Door structure failure due to damage
(5) Door support (i.e., pillar, sill, roof side rail, etc.) failure due to damage
(6) Latch/striker and hinge failure due to damage
(8) Other failure (specify): _____
(9) Unknown

GLAZING

Type of Window/Windshield Glazing

15. WS 1 16. LF 2 17. RF 2 18. LR 2 19. RR 2
20. BL 2 21. Roof 0 22. Other 0

(0) No glazing
(1) AS-1 — Laminated
(2) AS-2 — Tempered
(3) AS-3 — Tempered-tinted (original)
(4) AS-2 — Tempered-with after market tint
(5) AS-3 — Tempered-tinted (with additional after market tint)
(6) AS-14 — Glass/Plastic
(7) Glazing removed prior to accident
(8) Other (specify): _____
(9) Unknown

Window Precrash Glazing Status

23. WS 1 24. LF 9 25. RF 9 26. LR 2 27. RR 2
28. BL 1 29. Roof 0 30. Other 0

(0) No glazing
(1) Fixed
(2) Closed
(3) Partially opened
(4) Fully opened
(7) Glazing removed prior to accident
(9) Unknown

Glazing Damage from Impact Forces

31. WS 5 32. LF 6 33. RF 6 34. LR 6 35. RR 1
36. BL 1 37. Roof 0 38. Other 1

(0) No glazing
(1) No glazing damage from impact forces
(2) Glazing in place and cracked from impact forces
(3) Glazing in place and holed from impact forces
(4) Glazing out-of-place (cracked or not) and not holed from impact forces
(5) Glazing out-of-place and holed from impact forces
(6) Glazing disintegrated from impact forces
(7) Glazing removed prior to accident
(9) Unknown if damaged

Glazing Damage from Occupant Contact

39. WS 9 40. LF 9 41. RF 1 42. LR 1 43. RR 1
44. BL 1 45. Roof 0 46. Other 0

(0) No glazing
(1) No occupant contact to glazing
(2) Glazing contacted by occupant but no glazing damage
(3) Glazing in place and cracked by occupant contact
(4) Glazing in place and holed by occupant contact
(5) Glazing out-of-place (cracked or not) by occupant contact and not holed by occupant contact
(6) Glazing out-of-place by occupant contact and holed by occupant contact
(7) Glazing removed prior to accident
(8) Glazing disintegrated by occupant contact
(9) Unknown if contacted by occupant

STEERING RIM/SPOKE DEFORMATION

(All Measurements Are in Centimeters)

COMPARISON VALUE	–	DAMAGE VALUE	=	DEFORMATION
	–		=	
	–		=	
	–		=	
	–		=	

NO CONTACT/NO DEFORMATION

OCCUPANT AREA INTRUSION

Note: If no intrusions, leave variables IV47-IV86 blank.

	Location of Intrusion	Intruding Component	Magnitude of Intrusion	Dominant Crush Direction
1st	47. 11	48. 15	49. 4	50. 2
2nd	51. 11	52. 10	53. 4	54. 3
3rd	55. 11	56. 11	57. 4	58. 3
4th	59. 11	60. 02	61. 4	62. 2
5th	63. 11	64. 05	65. 4	66. 2
6th	67. 12	68. 15	69. 3	70. 2
7th	71. 11	72. 01	73. 3	74. 2
8th	75. 11	76. 06	77. 3	78. 2
9th	79. 12	80. 03	81. 3	82. 2
10th	83. 11	84. 18	85. 3	86. 1

LOCATION OF INTRUSION

Front Seat
- (11) Left
- (12) Middle
- (13) Right

Second Seat
- (21) Left
- (22) Middle
- (23) Right

Third Seat
- (31) Left
- (32) Middle
- (33) Right

Fourth Seat
- (41) Left
- (42) Middle
- (43) Right

- (97) Catastrophic
- (98) Other enclosed area (specify) _____
- (99) Unknown

INTRUDING COMPONENT

Interior Components
- (01) Steering assembly
- (02) Instrument panel left
- (03) Instrument panel center
- (04) Instrument panel right
- (05) Toe pan
- (06) A (A1/A2)-pillar
- (07) B-pillar
- (08) C-pillar
- (09) D-pillar
- (10) Side panel - forward of the A1/A2-pillar
- (11) Door panel (side)
- (12) Side panel - rear of the B-pillar
- (13) Roof (or convertible top)
- (14) Roof side rail
- (15) Windshield
- (16) Windshield header
- (17) Window frame
- (18) Floor pan (includes sill)
- (19) Backlight header
- (20) Front seat back
- (21) Second seat back
- (22) Third seat back
- (23) Fourth seat back
- (24) Fifth seat back
- (25) Seat cushion
- (26) Back door/panel (e.g., tailgate)
- (27) Other interior component (specify): _____

Exterior Components
- (30) Hood
- (31) Outside surface of this vehicle (specify): _____
- (32) Other exterior object in the environment (specify): _____
- (33) Unknown exterior object
- (97) Catastrophic
- (98) Intrusion of unlisted component(s) (specify): 13
- (99) Unknown

MAGNITUDE OF INTRUSION

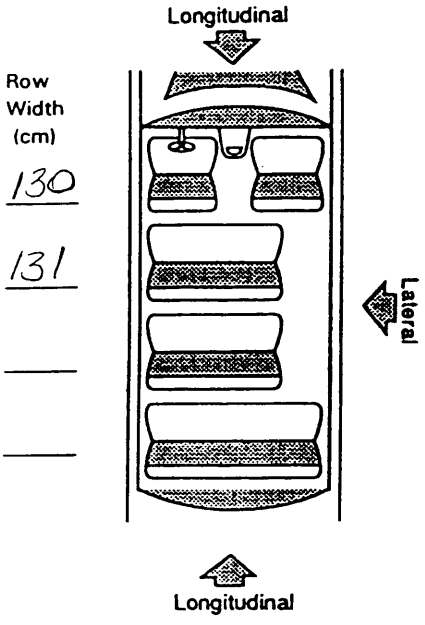
- (1) ≥ 3 centimeters but < 8 centimeters
- (2) ≥ 8 centimeters but < 15 centimeters
- (3) ≥ 15 centimeters but < 30 centimeters
- (4) ≥ 30 centimeters but < 46 centimeters
- (5) ≥ 46 centimeters but < 61 centimeters
- (6) ≥ 61 centimeters
- (7) Catastrophic
- (9) Unknown

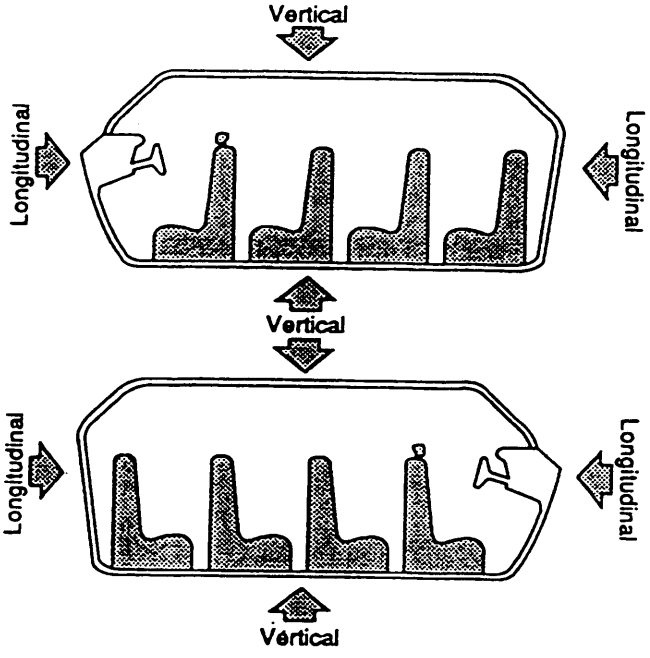
DOMINANT CRUSH DIRECTION

- (1) Vertical
- (2) Longitudinal
- (3) Lateral
- (7) Catastrophic
- (9) Unknown

INTRUSION WORKSHEET

NOTE: SKETCH INTRUDED AREAS





LOCATION OF INTRUSION	INTRUDED COMPONENT	(All Measurements Are In Centimeters) COMPARISON VALUE	–	INTRUDED VALUE	=	INTRUSION	DOMINANT CRUSH DIRECTION
11	STEERING ASSEMBLY	153	–	128	=	25	LONG.
11	LEFT INSTRUMENT PANEL	170	–	135	=	35	LONG.
12	CENTER INSTRUMENT PANEL	169	–	152	=	17	LONG.
11	TOE PAN	220	–	188	=	32	LONG.
13	TOE PAN	220	–	216	=	4	LONG.
11	LEFT "A" PILLAR	172	–	148	=	24	LONG.
11	SIDE PANEL LOWER "A" PANEL	167	–	126	=	41	LATERAL
11	LEFT-FRONT DOOR PANEL	171	–	131	=	40	LATERAL
11	ROOF	85	–	88	=	+3	VERTICAL
11	ROOF SIDERAIL	116	–	118	=	+2	LATERAL
11	WINDSHIELD	213	–	168	=	45	LONG.
12	WINDSHIELD	208	–	179	=	29	LONG.
11	FLOOR PAN	50	–	35	=	15	VERTICAL
13	FLOOR PAN	26	–	13	=	13	LONG.
21	FLOOR PAN	50	–	49	=	1	VERTICAL

Document no more than the 15 most severe intrusions

STEERING COLUMN

87. Steering Column Type — 1
(1) Fixed column
(2) Tilt column
(3) Telescoping column
(4) Tilt and telescoping column
(8) Other column type (specify): _____
(9) Unknown

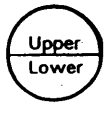
88. Tilt Steering Column Adjustment — 0
(0) No tilt steering column
(1) Full up
(2) Between full up and center
(3) Center
(4) Between center and full down
(5) Full down
(9) Unknown

89. Telescoping Steering Column Adjustment — 0
(0) No telescoping steering column
(1) Full back
(2) Between full back and midpoint
(3) Midpoint
(4) Between midpoint and full forward
(5) Full forward
(9) Unknown

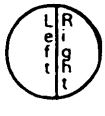
90. Steering Rim/Spoke Deformation — 0 0
____Code actual measured deformation to the nearest centimeter
(00) No steering rim deformation
(01-14) Actual measured value in centimeters
(15) 15 centimeters or more
(98) Observed deformation cannot be measured
(99) Unknown

91. Location of Steering Rim/Spoke Deformation — 0 0
(00) No steering rim deformation

Quarter Sections
(01) Section A
(02) Section B
(03) Section C
(04) Section D



Half Sections
(05) Upper half of rim/spoke
(06) Lower half of rim/spoke
(07) Left half of rim/spoke
(08) Right half of rim/spoke



(09) Complete steering wheel collapse
(10) Undetermined location
(99) Unknown

INSTRUMENT PANEL

92. Odometer Reading — __ __ 9,000
9,009 kilometers
Code to the nearest 1,000 kilometers
(000) No odometer
(001) Less than 1,500 kilometers
(500) 499,500 kilometers or more
(999) Unknown
__5,598 miles X 1.6093 = __9,009 kilometers

Source: _____

93. Instrument Panel Damage from Occupant Contact? — 1
(0) No
(1) Yes
(9) Unknown

94. Type of Knee Bolster Covering — 2
(0) No knee bolster
(1) Padded
(2) Rigid plastic
(8) Other (specify): _____
(9) Unknown

95. Knee Bolsters Deformed from Occupant Contact? — 2
(0) No knee bolster
(1) No deformation
(2) Yes - deformation
(9) Unknown

96. Did Glove Compartment Door Open During Collision(s)? — 2
(0) No glove compartment door
(1) No - door did not open
(2) Yes - door opened
(9) Unknown

97. Adaptive (Assistive) Driving Equipment — 0
(0) No adaptive driving equipment
(1) Adaptive driving equipment installed (Check all that apply.)
[ ] Hand controls for braking/acceleration
[ ] Steering control devices (attached to OEM steering wheel
[ ] Steering knob attached to steering wheel
[ ] Low effort power steering (unit or device)
[ ] Replacement steering wheel (i.e., reduced diameter)
[ ] Joy-stick steering controls
[ ] Wheelchair tie-downs
[ ] Modification to seat belts (specify): _____
[ ] Additional or relocated switches (specify): _____
[ ] Raised roof
[ ] Wall-mounted head rest (used behind wheelchair)
[ ] Other adaptive device (specify): _____
(9) Unknown

FIRST SEAT FRONTAL AIR BAGS

NOTES: Encode the applicable data ***for the driver and first seat passenger*** in the vehicle. The attribute for the variable may be found below. Restraint systems should be assessed during the vehicle inspection then coded on the Occupant Assessment Form.

	Driver	Passenger
A-Type of air bag?	1	1
B-Flaps open at tear points?	2	2
C-Flaps damaged?	1	1
D-Air bag damaged?	01	01
E-Source of air bag damage	01	01
F-Air bag tethered?	2	2
G-Air bag have vent ports?	2	2
H-Other occupant contact air bag?	3	1
I-Occupant wearing eyewear?	9	9

A-Type of Air Bag
- (0) Not equipped/not available
- (1) Original manufacturer installed system
- (2) Retrofitted air bag
- (3) Replacement air bag
- (8) Unknown type of air bag
- (9) Unknown

B-Did Air Bag Module Cover Flap(s) Open At Designated Tear Points?
- (0) Not equipped/not available
- (1) No
- (2) Yes
- (3) Deployed, unknown if flap(s) opened at designated tear points
- (7) Not deployed
- (8) Unknown if deployed
- (9) Unknown

C-Were Air Bag Module Cover Flap(s) Damaged?
- (0) Not equipped/not available
- (1) No
- (2) Yes (specify): _____
- (3) Deployed, unknown if air bag module cover flap(s) damaged
- (7) Not deployed
- (8) Unknown if deployed
- (9) Unknown

D-Was There Damage To The Air Bag?
- (00) Not equipped/not available
- (01) Not damaged

Yes - Air Bag Damage
- (02) Ruptured
- (03) Cut
- (04) Torn
- (05) Holed
- (06) Burned
- (07) Abraded
- (88) Other damage (specify): _____
- (95) Damaged, details unknown
- (96) Deployed, unknown if damaged
- (97) Not deployed
- (98) Unknown if deployed
- (99) Unknown

E-Source of Air Bag Damage
- (00) Not equipped/not available
- (01) Not damaged
- (02) Object worn by occupant, (specify): _____
- (03) Object carried by occupant, (specify): _____
- (04) Adaptive/assistive controls, (specify): _____
- (05) Fire in vehicle
- (06) Thermal burns
- (07) Rescue or emergency efforts
- (88) Other damage source (specify): _____
- (95) Damaged, unknown source
- (96) Deployed, unknown if damaged
- (97) Not deployed
- (98) Unknown if deployed
- (99) Unknown

F-Was The Air Bag Tethered?
- (0) Not equipped/not available
- (1) No
- (2) Yes (specify number of tether straps): 2
- (3) Deployed, unknown if tethered
- (7) Not deployed
- (8) Unknown if deployed
- (9) Unknown

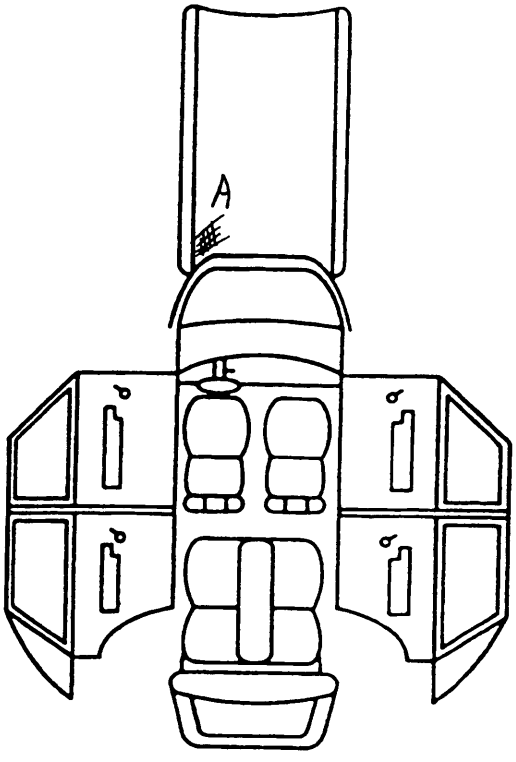
G-Did The Air Bag Have Vent Ports?
- (0) Not equipped/not available
- (1) No
- (2) Yes (specify number of vent ports): 2
- (3) Deployed, unknown if vent ports present
- (7) Not deployed
- (8) Unknown if deployed
- (9) Unknown

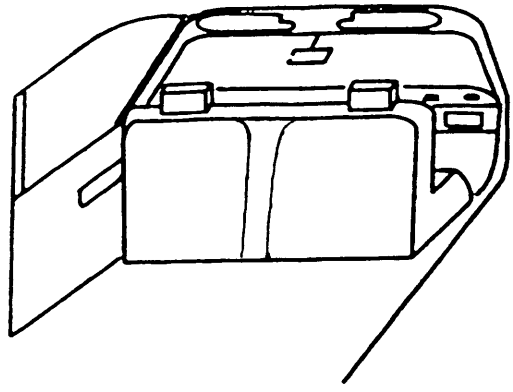
H-Was the Air Bag in this Occupant's Position Contacted by Another Occupant?
- (0) Not equipped/not available
- (1) No
- (2) Yes (specify): _____
- (3) Deployed, unknown if other occupant contact to air bag
- (7) Not deployed
- (8) Unknown if deployed
- (9) Unknown

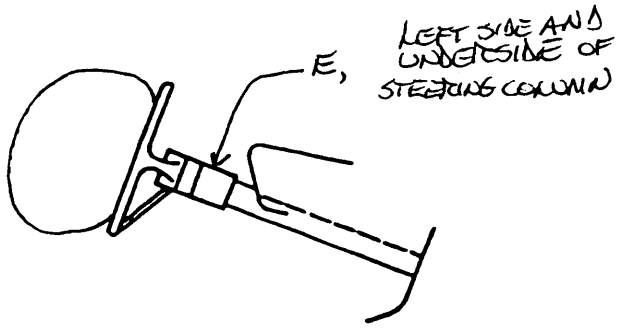
I-Was This Occupant Wearing Eye-wear?
- (0) Not equipped/not available
- (1) No
- (2) Eyeglasses/sunglasses
- (3) Contact lenses
- (4) Deployed, unknown if eyewear worn
- (7) Not deployed
- (8) Unknown if deployed
- (9) Unknown

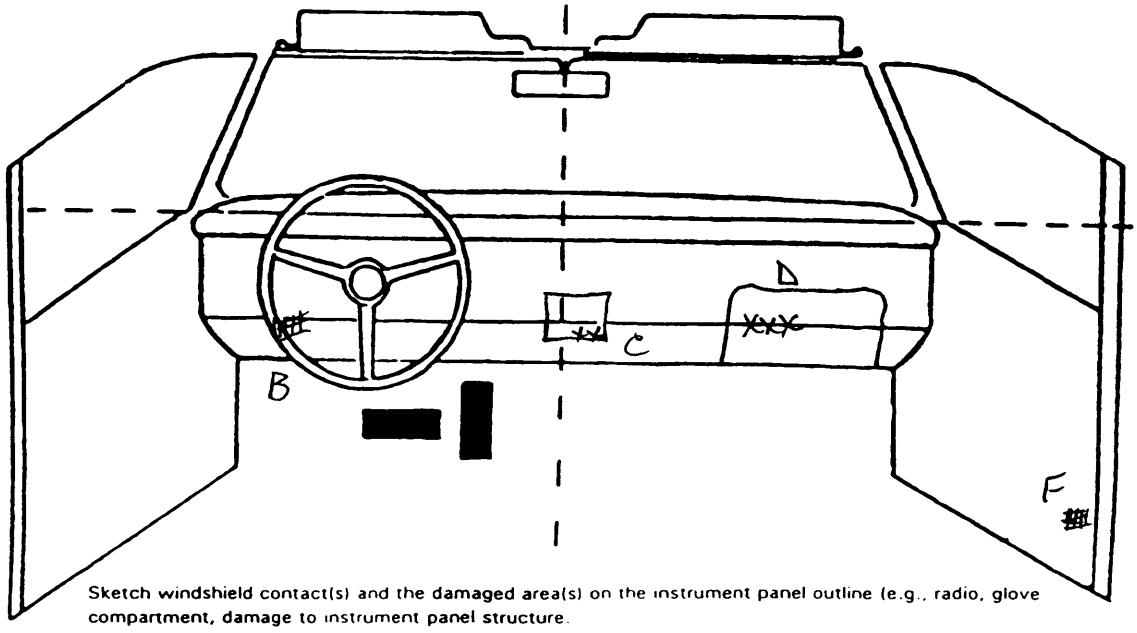
VEHICLE INTERIOR SKETCHES

Note area of ejection/entrapment









Sketch windshield contact(s) and the damaged area(s) on the instrument panel outline (e.g., radio, glove compartment, damage to instrument panel structure.
Cross hatch contact points, draw spider webs or use other annotation as may be appropriate.
Annotate the contacted area with a letter (begin with A) and list on the Points of Occupant Contact page.

POINTS OF OCCUPANT CONTACT

Contact	Interior Component Contacted	Occupant No. If Known	Body Region If Known	Supporting Physical Evidence	Confidence Level of Contact Point
A	205/003	01	HEAD	SKIN/FACIAL OIL TRANSFERS	1
B	010	01	(L) KNEE	CLOTH SCRATCHING	1
C	011	02	HAND	SCRATCH	3
D	013	02	(L) KNEE	SCRATCH/DEPRESSION	1
E	007	01	(L) KNEE	CLOTH SCRATCHING	1
F	110	02	(R) LOWER LEG	BLOOD SMUDGE	3
G					
H					
I					
J					
K					
L					
M					
N					

CODES FOR INTERIOR COMPONENTS

FRONT
(001) Windshield
(002) Mirror
(003) Sunvisor
(004) Steering wheel rim
(005) Steering wheel hub/spoke
(006) Steering wheel (combination of codes 004 and 005)
(007) Steering column,transmission selector lever, other attachment
(008) Cellular telephone or CB radio
(009) Add on equipment(e.g., tapedeck, air conditioner)
(010) Left instrument panel and below
(011) Center instrument panel and below
(012) Right instrument panel and below
(013) Glove compartment door
(014) Knee bolster
(015) Windshield including one or more of the following: front header, A (A1/A2)-pillar, instrument panel, mirror, or steering assembly (driver side only)
(016) Windshield including one or more of the following: front header, A (A1/A2)-pillar, instrument panel, or mirror (passenger side only)
(017) Windshield reinforced by exterior object, (specify): _____
(019) Other front object (specify): _____

LEFT SIDE
(051) Left side interior surface, excluding hardware or armrests
(052) Left side hardware or armrest
(053) Left A (A1/A2)-pillar
(054) Left B-pillar
(055) Other left pillar (specify): _____
(056) Left side window glass
(057) Left side window frame
(058) Left side window sill
(059) Left side window glass including one or more of the following: frame, window sill, A (A1/A2)-pillar, B-pillar, or roof side rail.
(060) Other left side object (specify): _____

RIGHT SIDE
(101) Right side interior surface, excluding hardware or armrests
(102) Right side hardware or armrest
(103) Right A (A1/A2)-pillar
(104) Right B-pillar
(105) Other right pillar (specify): _____
(106) Right side window glass
(107) Right side window frame
(108) Right side window sill
(109) Right side window glass including one or more of the following: frame, window sill, A (A1/A2)-pillar, B-pillar, or roof side rail.
(110) Other right side object (specify): KICK PANEL

INTERIOR
(151) Seat, back support
(152) Belt restraint webbing/buckle
(153) Belt restraint B-pillar or door frame attachment point
(154) Other restraint system component (specify): _____
(155) Head restraint system
(160) Other occupants (specify): _____
(161) Interior loose objects
(162) Child safety seat (specify): _____
(163) Other interior object (specify): _____

AIR BAG
(170) Air bag-driver side
(175) Air bag compartment cover-driver side
(180) Air bag-passenger side
(185) Air bag compartment cover-passenger side
(190) Other air bag (specify) _____
(195) Other air bag compartment cover (specify) _____

ROOF
(201) Front header
(202) Rear header
(203) Roof left side rail
(204) Roof right side rail
(205) Roof or convertible top

FLOOR
(251) Floor (including toe pan)
(252) Floor or console mounted transmission lever, including console
(253) Parking brake handle
(254) Foot controls including parking brake

REAR
(301) Backlight (rear window)
(302) Backlight storage rack, door, etc.
(303) Other rear object (specify): _____

ADAPTIVE (ASSISTIVE) DRIVING EQUIPMENT
(401) Hand controls for braking/acceleration
(402) Steering control devices (attached to OEM steering wheel)
(403) Steering knob attached to steering wheel
(405) Replacement steering wheel (i.e., reduced diameter)
(406) Joy stick steering controls
(407) Wheelchair tie-downs
(408) Modification to seat belts, (specify): _____
(409) Additional or relocated switches, (specify): _____
(410) Raised roof
(411) Wall mounted head rest (used behind wheel chair)
(412) Other adaptive device (specify): _____

CONFIDENCE LEVEL OF CONTACT POINT
(1) Certain
(2) Probable
(3) Possible
(9) Unknown

AUTOMATIC RESTRAINTS

NOTES: Encode the data for each applicable front seat position. The attribute for the variables may be found below. Restraint systems should be assessed during the vehicle inspection then coded on the Occupant Assessment Form.

AIR BAGS

		Frontal Air Bags--Left Front	Frontal Air Bags-Right Front	OtherAir Bag
FIRST	Availability/Function	/	/	
	Deployment	/	/	
	Failure	/	/	

Air Bag System Availability/Function
(0) Not equipped/not available
(1) Air bag

Non-functional
(2) Air bag disconnected (specify): _____
(3) Air bag not reinstalled
(9) Unknown

Air Bag System Deployment (This Occupant Position)
(0) Not equipped/not available
(1) Deployed during accident (as a result of impact)
(2) Deployed inadvertently just prior to accident
(3) Deployed, accident sequence undetermined
(4) Deployed as a result of a noncollision event during accident sequence (e.g., fire, explosion, electrical)
(5) Unknown if deployed
(7) Nondeployed
(9) Unknown

Are There Indications of Air Bag System Failure? (This Occupant Position)
(0) Not equipped/not available
(1) No
(2) Yes (specify): _____
(9) Unknown

AUTOMATIC BELTS

		Left	Right
FIRST	A-Availability/Function	○	○
	B-Use		
	C-Type		
	D-Proper Use		
	E-Failure Modes		

A-Automatic (Passive) Belt System Availability/Function
(0) Not equipped/not available
(1) 2 point automatic belts
(2) 3 point automatic belts
(3) Automatic belts - type unknown

Non-functional
(4) Automatic belts destroyed or rendered inoperative
(9) Unknown

B-Automatic (Passive) Belt System Use
(0) Not equipped/not available/destroyed or rendered inoperative
(1) Automatic belt in use
(2) Automatic belt not in use (manually disconnected, motorized track inoperative)
(3) Automatic belt use unknown
(9) Unknown

C-Automatic (Passive) Belt System Type
(0) Not equipped/not available
(1) Non-motorized system
(2) Motorized system
(9) Unknown

D-Proper Use of Automatic (Passive) Belt System
(0) Not equipped/not available/not used
(1) Automatic belt used properly
(2) Automatic belt used properly with child safety seat

Automatic Belt Used Improperly
(3) Automatic shoulder belt worn under arm
(4) Automatic shoulder belt worn behind back
(5) Automatic belt worn around more than one person
(6) Lap portion of automatic belt worn on abdomen
(7) Automatic lap and shoulder belt or automatic shoulder belt used improperly with child safety seat (specify): _____
(8) Other improper use of automatic belt system (specify): _____
(9) Unknown

E-Automatic (Passive) Belt Failure Modes During Accident
(0) Not equipped/not available/not in use
(1) No automatic belt failure(s)
(2) Torn webbing (stretched webbing not included)
(3) Broken buckle or latchplate
(4) Upper anchorage separated
(5) Other anchorage separated (specify): _____
(6) Broken retractor
(7) Combination of above (specify):
(8) Other automatic belt failure (specify): _____
(9) Unknown

MANUAL RESTRAINTS

NOTES: Encode the applicable data for each seat position in the vehicle. The attribute for the variable may be found below. Restraint systems should be assessed during the vehicle inspection then coded on the Occupant Assessment Form.

If a child safety seat is present, encode the data on the back of this page 11.

If the vehicle has automatic restraints available, encode the appropriate data on page 6.

		Left	Center	Right
FIRST	A-Availability	4	0	4
	B-Evidence of usage	04		04
	C-Used in this crash?	00		04
	D-Proper Use	0		9
	E-Failure Modes	0		1
	F-Anchorage Adjustment	1		1
SECOND	A-Availability	4	3	4
	B-Evidence of usage	04	03	04
	C-Used in this crash?	00	00	00
	D-Proper Use	0	0	0
	E-Failure Modes	0	0	0
	F-Anchorage Adjustment	1	0	1
OTHER	A-Availability			
	B-Evidence of usage			
	C-Used in this crash?			
	D-Proper Use			
	E-Failure Modes			
	F-Anchorage Adjustment			

A-Manual (Active) Belt System Availability

(0) None available
(1) Belt removed/destroyed
(2) Shoulder belt
(3) Lap belt
(4) Lap and shoulder belt
(5) Belt available - type unknown

Integral Belt Partially Destroyed

(6) Shoulder belt (lap belt destroyed/removed)
(7) Lap belt (shoulder belt destroyed/removed)
(8) Other belt (specify): _____
(9) Unknown

B/C-Manual (Active) Belt System Use

(00) None used, not available, or belt removed/destroyed
(01) Inoperable (specify): _____
(02) Shoulder belt
(03) Lap belt
(04) Lap and shoulder belt
(05) Belt used - type unknown
(08) Other belt used (specify): _____
(12) Shoulder belt used with child safety seat
(13) Lap belt used with child safety seat
(14) Lap and shoulder belt used with child safety seat
(15) Belt used with child safety seat - type unknown
(18) Other belt used with child safety seat (specify): _____
(99) Unknown if belt used

D-Proper Use of Manual (Active) Belts

(0) None used or not available
(1) Belt used properly
(2) Belt used properly with child safety seat

Belt Used Improperly

(3) Shoulder belt worn under arm
(4) Shoulder belt worn behind back or seat
(5) Belt worn around more than one person
(6) Lap belt worn on abdomen
(7) Lap belt or lap and shoulder belt used improperly with child safety seat (specify): _____
(8) Other improper use of manual belt system (specify): _____
(9) Unknown

E-Manual (Active) Belt Failure Modes During Accident

(0) No manual belt used or not available
(1) No manual belt failure(s)
(2) Torn webbing (stretched webbing not included)
(3) Broken buckle or latchplate
(4) Upper anchorage separated
(5) Other anchorage separated (specify): _____
(6) Broken retractor
(7) Combination of above (specify): _____
(8) Other manual belt failure (specify): _____
(9) Unknown

F-Shoulder Belt Upper Anchorage Adjustment

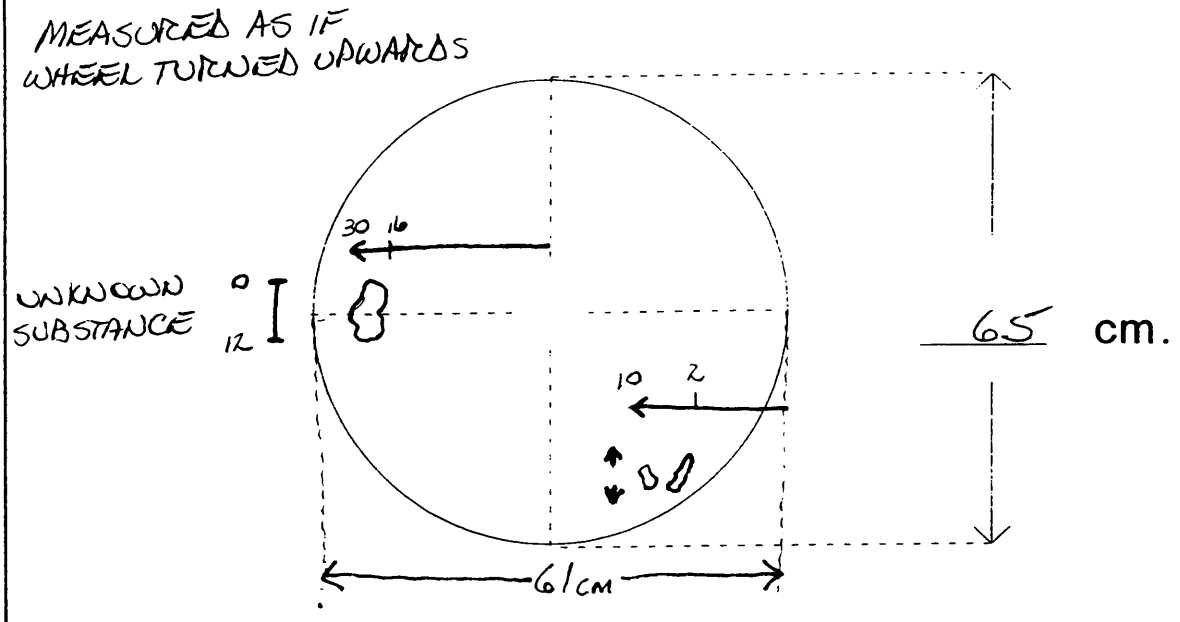
(0) No shoulder belt
(1) No upper anchorage adjustment for shoulder belt

Adjustable shoulder Belt Upper Anchorage

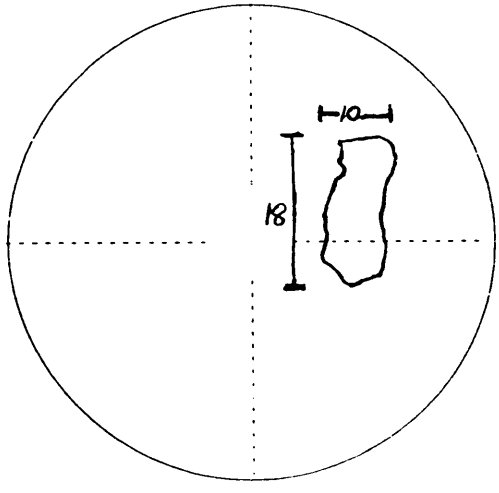
(2) In full up position
(3) In mid position
(4) In full down position
(5) Position unknown
(9) Unknown if position has adjustable upper anchorage adjustment

DRIVER AIR BAG DAMAGE AND CONTACT SKETCHES

1. SKETCH DAMAGE AND CONTACT EVIDENCE ON DRIVER AIR BAG (Front)



2. SKETCH DAMAGE AND CONTACT EVIDENCE ON DRIVER AIR BAG (Back)

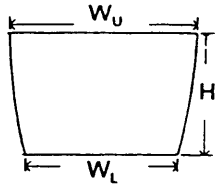


DRIVER AIR BAG SKETCHES (Cont'd)

3. DRIVER AIR BAG MODULE COVER FLAP SIZE (SINGLE)

width (W_U) _____ width (W_L) _____

height (H) _____

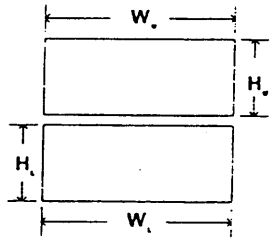


4. DRIVER AIR BAG MODULE COVER FLAP SIZE (DOUBLE)

a. Upper Flap b. Lower Flap

width (W_U) 13.5 width (W_L) 13.5

height (H_U) 8.0 height (H_L) 8.0

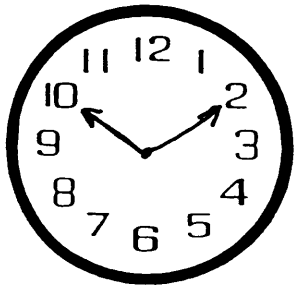


5. SKETCH OF OTHER TYPE OF AIR BAG MODULE FLAP AND SIZE

6. SKETCH OF OTHER TYPE OF AIR BAG VENT PORTS

STEERING WHEEL TURNED 90° LEFT

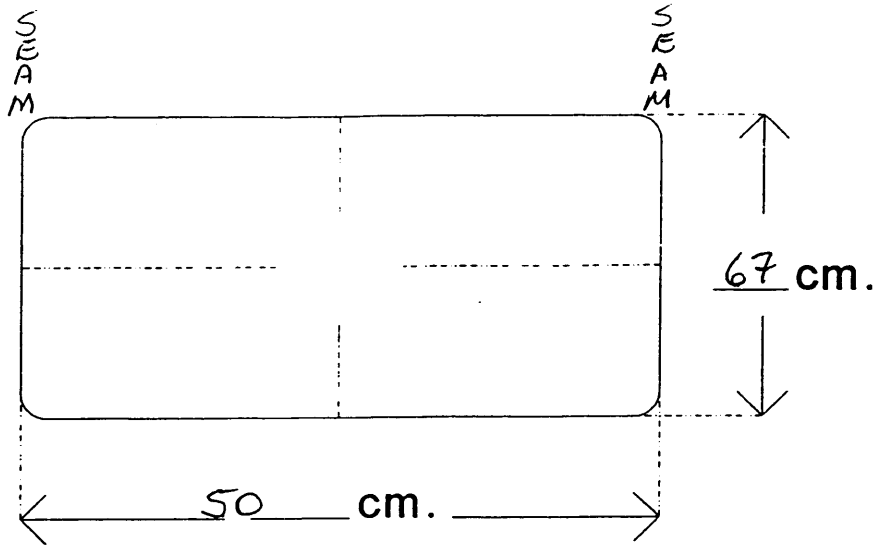
7. SKETCH LOCATION OF CIRCULAR AIR BAG VENT PORTS



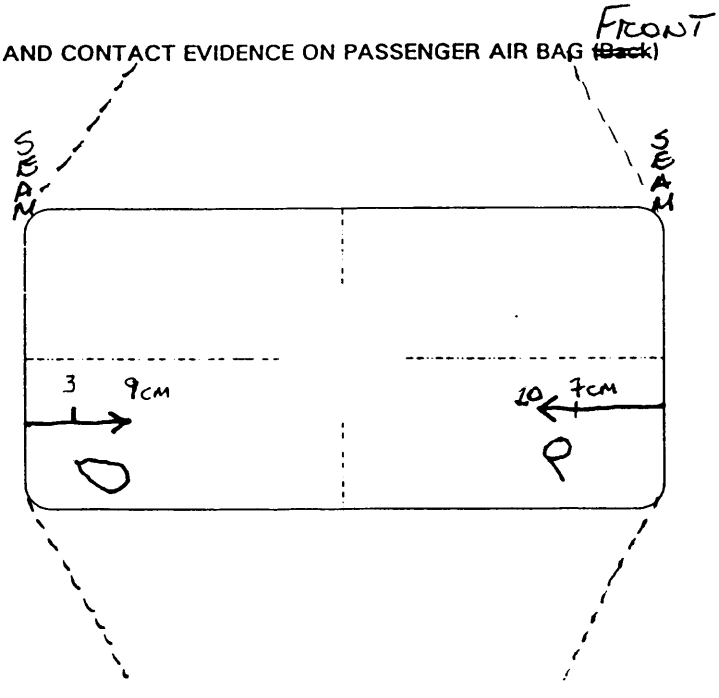
BOTH VENTS 5CM IN DIAMETER

PASSENGER AIR BAG DAMAGE AND CONTACT SKETCHES

1. SKETCH DAMAGE AND CONTACT EVIDENCE ON PASSENGER AIR BAG (Front)



2. SKETCH DAMAGE AND CONTACT EVIDENCE ON PASSENGER AIR BAG ~~(Back)~~

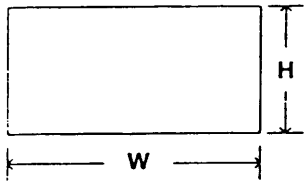


PASSENGER AIR BAG SKETCHES (Cont'd)

3. PASSENGER AIR BAG MODULE COVER FLAP SIZE (SINGLE)

width (W) 27

height (H) 8.0



4. PASSENGER AIR BAG MODULE COVER FLAP SIZE (DOUBLE)

a. Upper Flap

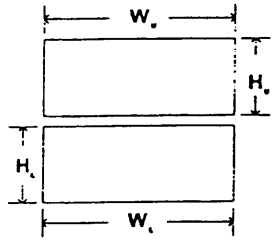
width (W_U) _____

height (H_U) _____

b. Lower Flap

width (W_L) _____

height (H_L) _____

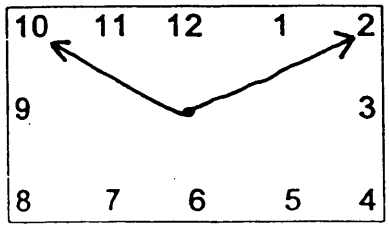


5. SKETCH OF OTHER TYPE OF AIR BAG MODULE FLAP AND SIZE

6. SKETCH OF OTHER TYPE OF AIR BAG VENT PORTS

BOTH VENTS
6 CM IN DIAMETER

7. SKETCH LOCATION OF RECTANGULAR AIR BAG VENT PORTS



"OTHER" AIR BAG DAMAGE AND CONTACT SKETCHES

1. SKETCH DAMAGE AND CONTACT EVIDENCE ON *"OTHER"* AIR BAG (Front)

2. SKETCH DAMAGE AND CONTACT EVIDENCE ON *"OTHER"* AIR BAG (Back)

"OTHER" AIR BAG SKETCHES (Cont'd)

3. SKETCH AIR BAG MODULE FLAP AND SIZE OR OPENING FOR AIRBAG

4. SKETCH AIR BAG VENT PORTS

HEAD RESTRAINTS/SEAT EVALUATION

NOTES: Encode the applicable data for each seat position in the vehicle. The attribute for these variables may be found at the bottom of the page. Head restraint type/damage and seat type/performance should be assessed during the vehicle inspection then coded on the Occupant Assessment Form.

		Left	Center	Right
FIRST	A-Head Restraint Type/Damage	3		3
	B-Seat Type	02		02
	C-Seat Orientation	1		1
	D-Seat Track Position	9		6
	E-Seat Back Incline Pre/Post Impact	99		23
	F-Seat Performance	1		1
SECOND	A-Head Restraint Type/Damage	3		3
	B-Seat Type	05	05	05
	C-Seat Orientation	1	1	1
	D-Seat Track Position	1	1	1
	E-Seat Back Incline Pre/Post Impact	01	01	01
	F-Seat Performance	0	0	0
THIRD	A-Head Restraint Type/Damage			
	B-Seat Type			
	C-Seat Orientation			
	D-Seat Track Position			
	E-Seat Back Incline Pre/Post Impact			
	F-Seat Performance			
OTHER	A-Head Restraint Type/Damage			
	B-Seat Type			
	C-Seat Orientation			
	D-Seat Track Position			
	E-Seat Back Incline Pre/Post Impact			
	F-Seat Performance			

DESCRIBE ANY INDICATION OF ABNORMAL OCCUPANT POSTURE

(I.E., UNUSUAL OCCUPANT CONTACT PATTERN)

ACCORDING TO AMBULANCE CREW, NO SEAT TRACKS WERE MOVED DURING TREATMENT OR EXTRICATION

CHILD SAFETY SEAT FIELD ASSESSMENT

When a child safety seat is present enter the occupant's number in the first row and complete the column below the occupant's number using the codes listed below. Complete a column for each child safety seat present.

Occupant Number		NO CHILD SAFETY SEATS				
1. Type of Child Safety Seat						
2. Child Safety Seat Orientation						
3. Child Safety Seat Harness Usage						
4. Child Safety Seat Shield Usage						
5. Child Safety Seat Tether Usage						
6. Child Safety Seat Make/Model	Specify Below for Each Child Safety Seat					

1. Type of Child Safety Seat
   - (0) No child safety seat
   - (1) Infant seat
   - (2) Toddler seat
   - (3) Convertible seat
   - (4) Booster seat
   - (7) Other type child safety seat (specify): _____
   - (8) Unknown child safety seat type
   - (9) Unknown if child safety seat used

2. Child Safety Seat Orientation
   - (00) No child safety seat

   Designed for Rear Facing for This Age/Weight
   - (01) Rear facing
   - (02) Forward facing
   - (08) Other orientation (specify): _____
   - (09) Unknown orientation

   Designed for Forward Facing for This Age/Weight
   - (11) Rear facing
   - (12) Forward facing
   - (18) Other orientation (specify): _____
   - (19) Unknown orientation

   Unknown Design or Orientation For This Age/Weight, or Unknown Age/Weight
   - (21) Rear facing
   - (22) Forward facing
   - (28) Other orientation (specify): _____
   - (29) Unknown orientation

   (99) Unknown if child safety seat used

3. Child Safety Seat Harness Usage

4. Child Safety Seat Shield Usage

5. Child Safety Seat Tether Usage
   Note: Options Below Are Used for Variables 3-5.
   - (00) No child safety seat

   Not Designed with Harness/Shield/Tether
   - (01) After market harness/shield/tether added, not used
   - (02) After market harness/shield/tether used
   - (03) Child safety seat used, but no after market harness/shield/tether added
   - (09) Unknown if harness/shield/tether added or used

   Designed With Harness/Shield/Tether
   - (11) Harness/shield/tether not used
   - (12) Harness/shield/tether used
   - (19) Unknown if harness/shield/tether used

   Unknown If Designed With Harness/Shield/Tether
   - (21) Harness/shield/tether not used
   - (22) Harness/shield/tether used
   - (29) Unknown if harness/shield/tether used

   (99) Unknown if child safety seat used

6. Child Safety Seat Make/Model
   (Specify make/model and occupant number)

   _____

   _____

   _____

   _____

HEAD RESTRAINTS/SEAT EVALUATION

A-Head Restraint Type/Damage by Occupant at This Occupant Position
(0) No head restraints
(1) Integral — no damage
(2) Integral — damaged during accident
(3) Adjustable — no damage
(4) Adjustable — damaged during accident
(5) Add-on — no damage
(6) Add-on — damaged during accident
(8) Other
Specify):_____
(9) Unknown

B-Seat Type (this Occupant Position)
(00) Occupant not seated or no seat
(01) Bucket
(02) Bucket with folding back
(03) Bench
(04) Bench with separate back cushions
(05) Bench with folding back(s)
(06) Split bench with separate back cushions
(07) Split bench with folding back(s)
(08) Pedestal (i.e., column supported)
(09) Box mounted seat (i.e., van type)
(10) Other seat type (specify):
_____
(99) Unknown

C-Seat Orientation (this Occupant Position)
(0) Occupant not seated or no seat
(1) Forward facing seat
(2) Rear facing seat
(3) Side facing seat (inward)
(4) Side facing seat (outward)
(8) Other (specify):
_____
(9) Unknown

D-Seat Track Adjusted Position Prior To Impact
(0) Occupant not seated or no seat
(1) Non-adjustable seat track

Adjustable Seat Track
(2) Seat at forward most track position
(3) Seat between forward most and middle track positions
(4) Seat at middle track position
(5) Seat between middle and rear most track positions
(6) Seat at rear most track position
(9) Unknown

E-Seat Back Incline Prior and Post Impact
(00) Occupant not seated or no seat
(01) Not adjustable

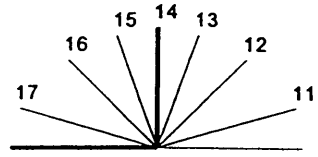
Upright prior to impact
(11) Moved to completely rearward position
(12) Moved to rearward midrange position
(13) Moved to slightly rearward position
(14) Retained pre-impact position
(15) Moved to slightly forward position
(16) Moved to forward midrange position
(17) Moved to completely forward position

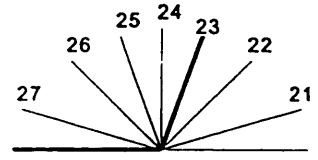
Slightly reclined prior to impact
(21) Moved to completely rearward position
(22) Moved to rearward midrange position
(23) Retained pre-impact postion
(24) Moved to upright position
(25) Moved to slightly forward position
(26) Moved to forward midrange position
(27) Moved to completely forward position

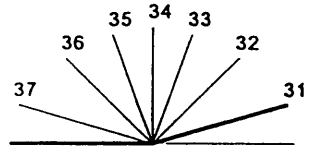
Completely reclined prior to impact
(31) Retained pre-impact position
(32) Moved to rearward midrange position
(33) Moved to slightly rearward position
(34) Moved to upright position
(35) Moved to slightly forward position
(36) Moved to forward midrange position
(37) Moved to completely forward position

(99) Unknown

F-Seat Performance (this Occupant Position)
(0) Occupant not seated or no seat
(1) No seat performance failure(s)
(2) Seat adjusters failed
(3) Seat back folding locks or "seat back" failed (specify):
_____
(4) Seat tracks/anchors failed
(5) Deformed by impact of occupant
(6) Deformed by passenger compartment intrusion (specify):_____
(7) Combination of above (specify):
_____
(8) Other (specify):
_____
(9) Unknown







Coding diagrams for *Seat Back Incline Position Prior and Post Impact*

EJECTION/ENTRAPMENT DATA

Complete the following if the researcher has any indication that an occupant was either ejected from or entrapped in the vehicle. Code the appropriate data on the Occupant Assessment Form.

EJECTION No [X] Yes [ ]

Describe indications of ejection and body parts involved in partial ejection(s):

Occupant Number						
Ejection						
(Note on Vehicle Interior Sketch) Ejection Area						
Ejection Medium						
Medium Status						

Ejection
(1) Complete ejection
(2) Partial ejection
(3) Ejection, Unknown degree
(9) Unknown

Ejection Area
(1) Windshield
(2) Left front
(3) Right front
(4) Left rear
(5) Right rear
(6) Rear
(7) Roof
(8) Other area (e.g., back of pickup, etc.) (specify):
(9) Unknown

Ejection Medium
(1) Door/hatch/tailgate
(2) Nonfixed roof structure
(3) Fixed glazing
(4) Nonfixed glazing (specify):
(5) Integral structure
(8) Other medium (specify):
(9) Unknown

Medium Status (Immediately Prior to Impact)
(1) Open
(2) Closed
(3) Integral structure
(9) Unknown

ENTRAPMENT No [✓] Yes [✓]

Describe entrapment mechanism: DRIVER WAS MOST LIKELY ENTRAPPED AT THE LOWER EXTREMITIES BY THE LOWER INSTRUMENT PANEL. THE RIGHT-FRONT PASSENGER WAS NOT ENTRAPPED. BOTH FRONT DOORS WERE JAMMED (NOTE EVIDENCE OF EXTRICATION TOOL AT BOTH "B"-PILLARS' LEADING EDGE.

Component(s): LEFT LOWER INSTRUMENT PANEL AND STEERING COLUMN AND WHEEL

(Note on vehicle interior sketch)

U.S. Department of Transportation
National Highway Traffic Safety Administration

GENERAL VEHICLE FORM

NATIONAL ACCIDENT SAMPLING SYSTEM
CRASHWORTHINESS DATA SYSTEM

1. Primary Sampling Unit Number: 10
2. Case Number - Stratum: 9616
3. Vehicle Number: 02

VEHICLE IDENTIFICATION

4. Vehicle Model Year: 86
   Code the last two digits of the model year
   (99) Unknown

5. Vehicle Make (specify): 23
   GMC
   Applicable codes are found in your NASS Data Collection, Coding and Editing Manual.
   (99) Unknown

6. Vehicle Model (specify): 481
   SIERRA CLASSIC PICKUP 4WD
   Applicable codes are found in your NASS Data Collection, Coding and Editing Manual.
   (999) Unknown

7. Body Type: 31
   Note: Applicable codes may be found on the back of this page.

8. Vehicle Identification Number
   1GTDC14H2GJ_____
   1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17
   Left justify; Slash zeros and letter Z (Ø and Z)
   No VIN—Code all zeros
   Unknown—Code all nines

9. Vehicle Special Use (This Trip): 0
   (0) No special use
   (1) Taxi
   (2) Vehicle used as school bus
   (3) Vehicle used as other bus
   (4) Military
   (5) Police
   (6) Ambulance
   (7) Fire truck or car
   (8) Other (specify): _____
   (9) Unknown

OFFICIAL RECORDS

10. Police Reported Vehicle Disposition: 1
    (0) Not towed due to vehicle damage
    (1) Towed due to vehicle damage
    (9) Unknown

11. Police Reported Travel Speed: 999
    Code to the nearest kmph (NOTE: 000 means less than 0.5 kmph)
    (160) 159.5 kmph and above
    (999) Unknown

    ___ mph X 1.6093 = ___ kmph

12. Speed Limit: 072
    (000) No statutory limit
    Code posted or statutory speed limit in kmph
    (999) Unknown

    45 mph X 1.6093 = 072 kmph

13. Police Reported Alcohol Presence For Driver: 1
    (0) No alcohol present
    (1) Yes alcohol present
    (7) Not reported
    (8) No driver present
    (9) Unknown

14. Alcohol Test Result For Driver: 25
    Code actual value (decimal implied before first digit—0.xx)
    (95) Test refused
    (96) None given
    (97) AC test performed, results unknown
    (98) No driver present
    (99) Unknown

    Source: _____

15. Police Reported Other Drug Presence For Driver: 7
    (0) No other drug(s) present
    (1) Yes other drug(s) present
    (7) Not reported
    (8) No driver present
    (9) Unknown

16. Other Drug Specimen Test Result For Driver: 9
    (0) No specimen test given
    (1) Drug(s) not found in specimen
    (2) Drug(s) found in specimen, (specify):
    _____
    (3) Specimen test given, results unknown or not obtained
    (8) No driver present
    (9) Unknown if specimen test given

17. Driver's Zip Code: _____
    (00001) Driver not a resident of U.S. or territories
    46221 Code actual 5-digit zip code
    (99998) No driver present
    (99999) Unknown

18. Driver's Race/Ethnic Origin: 9
    (1) White (non-Hispanic)
    (2) Black (non-Hispanic)
    (3) White (Hispanic)
    (4) Black (Hispanic)
    (5) American Indian, Eskimo or Aleut
    (6) Asian or Pacific Islander
    (7) Other (specify):
    _____
    (8) No driver present
    (9) Unknown

CODES FOR BODY TYPE

CDS APPLICABLE VEHICLES

Automobiles

(01) Convertible (excludes sun-roof, t-bar)
(02) 2-door sedan, hardtop, coupe
(03) 3-door/2-door hatchback
(04) 4-door sedan, hardtop
(05) 5-door/4-door hatchback
(06) Station wagon (excluding van and truck based)
(07) Hatchback, number of doors unknown
(08) Other automobile type (specify):

_____

(09) Unknown automobile type

Automobile Derivatives

(10) Auto based pickup (includes El Camino, Caballero, Ranchero, Brat, and Rabbit pickup)
(11) Auto based panel (cargo station wagon, auto based ambulance/hearse)
(12) Large limousine - more than four side doors or stretched chassis
(13) Three-wheel automobile or automobile derivative

Utility Vehicles (≤ 4,536 kgs GVWR)

(14) Compact utility (Jeep CJ-2 - CJ-7, Scrambler, Golden Eagle, Renegade, Laredo, Wrangler, Cherokee [84 and after], Dispatcher, Raider, Bronco II, Bronco [76 and before], Explorer, S-10 Blazer, Geo Tracker, Bravada, S-15 Jimmy, Thing, Pathfinder, Trooper, Trooper II, Rodeo, Amigo, Navajo, 4-Runner, Montero, Passport, Samurai, Sidekick, Rocky)
(15) Large utility (includes Jeep Cherokee [83 and before], Ramcharger, Trailduster, Bronco-fullsize [78 and after], fullsize Blazer, fullsize Jimmy, Hummer, Landcruiser, Rover, Scout, Yukon)
(16) Utility station wagon (Chevy Suburban, GMC Suburban, Travelall, Grand Wagoneer, includes suburban limousine)
(19) Utility, unknown body type

Van Based Light Trucks (≤ 4,536 kgs GVWR)

(20) Minivan (Town and Country, Caravan, Grand Caravan, Voyager, Grand Voyager, Mini-Ram, Vista, Aerostar, Windstar, Villager, Lumina APV, Trans Sport, Silhouette, Astro, Safari, Toyota Van, Toyota Minivan, Previa, Nissan Minivan, Quest, Mitsubishi Minivan, Expo Wagon, Vanagon/Camper.)
(21) Large van (B150-B350, Sportsman, Royal, Maxiwagon, Ram, Tradesman, Voyager [83 and before], E150-E350, Econoline, Clubwagon, Chateau, G10-G30, Chevy Van, Beauville, Sport Van, G15-G35, Rally Van, Vandura.)
(22) Step van or walk-in van (≤ 4,536 kgs GVWR)
(23) Van based motorhome (≤ 4,536 kgs GVWR)
(24) Van based school bus (≤ 4,536 kgs GVWR)
(25) Van based other bus (≤ 4,536 kgs GVWR)
(28) Other van type (Hi-Cube Van, Kary) (specify):

_____

(29) Unknown van type

Light Conventional Trucks (Pickup style cab, ≤ 4,536 kgs GVWR)

(30) Compact pickup (D50, Colt P/U, Ram 50, Dakota, Arrow Pickup [foreign], Ranger, Courier, S-10 , T-10, LUV, S-15, T-15, Sonoma, Datsun/Nissan Pickup, P'up, Mazda Pickup, Toyota Pickup, Mitsubishi Pickup)
(31) Large Pickup (Jeep Pickup, Comanche, Ram Pickup, D100-D350, W100-W350, F100-F350, C10-C35, K10-K35, R10-R35, V10-V35, Silverado, Sierra, R100-R500, T100)
(32) Pickup with slide-in camper
(33) Convertible pickup
(39) Unknown pickup style light conventional truck type

Other Light Trucks (≤ 4,536 kgs GVWR)

(40) Cab chassis based (includes rescue vehicles, light stake, dump, and tow truck)
(41) Truck based panel
(42) Light truck based motorhome (chassis mounted)
(45) Other light conventional truck type
(48) Unknown light truck type
(49) Unknown light vehicle type (automobile, utility, van, or light truck)

OTHER VEHICLES

Buses (Excludes Van Based)

(50) School bus (designed to carry students, not cross country or transit)
(58) Other bus type (e.g., transit, intercity, bus based motorhome) (specify):

_____

(59) Unknown bus type

Medium/Heavy Trucks (> 4,536 kgs GVWR)

(60) Step van (> 4,536 kgs GVWR)
(61) Single unit straight truck (4,536 kgs < GVWR ≤ 8,845 kgs)
(62) Single unit straight truck (8,845 kgs < GVWR ≤ 11,793 kgs)
(63) Single unit straight truck (> 11,793 kgs GVWR)
(64) Single unit straight truck, GVWR unknown
(65) Medium/heavy truck based motorhome
(67) Truck-tractor with no cargo trailer
(68) Truck-tractor pulling one trailer
(69) Truck-tractor pulling two or more trailers
(70) Truck-tractor (unknown if pulling trailer)
(78) Unknown medium/heavy truck type
(79) Unknown truck type (light/medium/heavy)

Motored Cycles (Does Not Include All-Terrain Vehicles/Cycles)

(80) Motorcycle
(81) Moped (motorized bicycle)
(82) Three-wheel motorcycle or moped
(88) Other motored cycle (minibike, motorscooter) (specify): _____
(89) Unknown motored cycle type

Other Vehicles

(90) ATV (All-Terrain Vehicle) and ATC (All-Terrain Cycle)
(91) Snowmobile
(92) Farm equipment other than trucks
(93) Construction equipment other than trucks
(97) Other vehicle type
(99) Unknown body type

PRECRASH ENVIRONMENTAL DATA

19. Relation To Interchange Or Junction — 0
(0) Non-interchange area and non-junction
(1) Interchange area related

Non-Interchange junctions
(2) Intersection related
(3) Driveway, alley access related
(4) Other junction (specify)
_____
(5) Unknown type of junction

(9) Unknown

20. Trafficway Flow — 0
(0) Not physically divided (two way traffic)
(1) Divided trafficway-median strip without positive barrier
(2) Divided trafficway-median strip with positive barrier
(3) One way traffic
(9) Unknown

21. Number Of Travel Lanes — 2
(1) One
(2) Two
(3) Three
(4) Four
(5) Five
(6) Six
(7) Seven or more
(9) Unknown

22. Roadway Alignment — 2
(1) Straight
(2) Curve right
(3) Curve left
(9) Unknown

23. Roadway Profile — 2
(1) Level
(2) Uphill grade (>2%)
(3) Hill crest
(4) Downhill grade (>2%)
(5) Sag
(9) Unknown

24. Roadway Surface Type — 2
(1) Concrete
(2) Bituminous (asphalt)
(3) Brick or block
(4) Slag, gravel, or stone
(5) Dirt
(8) Other (specify): _____
(9) Unknown

25. Roadway Surface Condition — 2
(1) Dry
(2) Wet
(3) Snow or slush
(4) Ice
(5) Sand, dirt, or oil
(8) Other (specify): _____
(9) Unknown

26. Light Conditions — 2
(1) Daylight
(2) Dark
(3) Dark, but lighted
(4) Dawn
(5) Dusk
(9) Unknown

27. Atmospheric Conditions — 0
(0) No adverse atmospheric-related driving conditions
(1) Rain
(2) Sleet/hail
(3) Snow
(4) Fog
(5) Rain and fog
(6) Sleet and fog
(7) Other (e.g., smog, smoke, blowing sand or dust, etc.) (specify):
_____
(9) Unknown

28. Traffic Control Device — 6
(0) No traffic control(s)
(1) Traffic control signal (not RR crossing)

Regulatory
(2) Stop sign
(3) Yield sign
(4) School zone sign
(5) Other regulatory sign (specify):
_____
(6) Warning sign (not RR crossing)
(7) Unknown sign
(8) Miscellaneous/other controls including RR controls (specify):
_____
(9) Unknown

29. Traffic Control Device Functioning — 2
(0) No traffic control device
(1) Traffic control device not functioning (specify):
_____
(2) Traffic control device functioning properly
(9) Unknown

PRECRASH DRIVER RELATED DATA

30. Driver's Distraction/Inattention To Driving (Prior To Recognition Of Critical Event) 9 9
(00) No driver present
(01) Attentive or not distracted
(02) Looked but did not see

Distractions
(03) By other occupant(s), (specify): _____
(04) By moving object in vehicle (specify): _____
(05) While talking or listening to cellular phone (specify location and type of phone): _____
(06) While dialing cellular phone (specify location and type of phone): _____
(07) While adjusting climate controls
(08) While adjusting radio, cassette, CD (specify): _____
(09) While using other device/controls integral to vehicle (specify): _____
(10) While using or reaching for device/object brought into vehicle (specify): _____
(11) Sleepy or fell asleep
(12) Distracted by outside person, object, or event (specify): _____
(13) Eating or drinking
(14) Smoking related
(97) Distracted/inattentive, details unknown
(98) Other, distraction (specify): _____
(99) Unknown

31. Pre-Event Movement (Prior to Recognition of Critical Event) 1 4
(00) No driver present
(01) Going straight
(02) Decelerating in traffic lane
(03) Accelerating in traffic lane
(04) Starting in traffic lane
(05) Stopped in traffic lane
(06) Passing or overtaking another vehicle
(07) Disabled or parked in travel lane
(08) Leaving a parking position
(09) Entering a parking position
(10) Turning right
(11) Turning left
(12) Making a U-turn
(13) Backing up (other than for parking position)
(14) Negotiating a curve
(15) Changing lanes
(16) Merging
(17) Successful avoidance maneuver to a previous critical event
(97) Other (specify): _____
(99) Unknown

32. Critical Precrash Event 1 0

THIS VEHICLE LOSS OF CONTROL DUE TO:
(01) Blow out or flat tire
(02) Stalled engine
(03) Disabling vehicle failure (e.g., wheel fell off) (specify): _____
(04) Non-disabling vehicle problem (e.g., hood flew up) (specify): _____
(05) Poor road conditions (puddle, pot hole, ice, etc.) (specify): _____
(06) Traveling too fast for conditions
(08) Other cause of control loss (specify): _____
(09) Unknown cause of control loss

THIS VEHICLE TRAVELLING
(10) Over the lane line on left side of travel lane
(11) Over the lane line on right side of travel lane
(12) Off the edge of the road on the left side
(13) Off the edge of the road on the right side
(14) End departure
(15) Turning left at intersection
(16) Turning right at intersection
(17) Crossing over (passing through) intersection
(18) This vehicle decelerating
(19) Unknown travel direction

OTHER MOTOR VEHICLE IN LANE
(50) Other vehicle stopped
(51) Traveling in same direction with lower steady speed
(52) Traveling in same direction while decelerating
(53) Traveling in same direction with higher speed
(54) Traveling in opposite direction
(55) In crossover
(56) Backing
(59) Unknown travel direction of other motor vehicle in lane

OTHER MOTOR VEHICLE ENCROACHING INTO LANE
(60) From adjacent lane (same direction)—over left lane line
(61) From adjacent lane (same direction)—over right lane line
(62) From opposite direction—over left lane line
(63) From opposite direction—over right lane line
(64) From parking lane
(65) From crossing street, turning into same direction
(66) From crossing street, across path
(67) From crossing street, turning into opposite direction
(68) From crossing street, intended path not known
(70) From driveway, turning into same direction
(71) From driveway, across path
(72) From driveway, turning into opposite direction
(73) From driveway, intended path not known
(74) From entrance to limited access highway
(78) Encroachment by other vehicle—details unknown

PEDESTRIAN, PEDALCYCLIST, OR OTHER NONMOTORIST
(80) Pedestrian in roadway
(81) Pedestrian approaching roadway
(82) Pedestrian—unknown location
(83) Pedalcyclist or other nonmotorist in roadway (specify): _____
(84) Pedalcyclist or other nonmotorist approaching roadway, (specify): _____
(85) Pedalcyclist or other nonmotorist—unknown location (specify): _____

OBJECT OR ANIMAL
(87) Animal in roadway
(88) Animal approaching roadway
(89) Animal—unknown location
(90) Object in roadway
(91) Object approaching roadway
(92) Object—unknown location
(98) Other critical precrash event (specify): _____
(99) Unknown

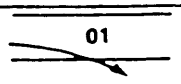
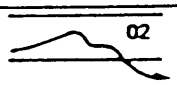
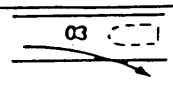
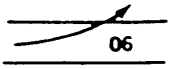
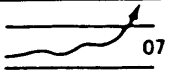
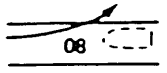
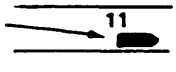
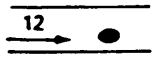
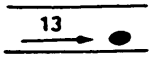
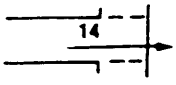
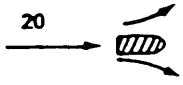
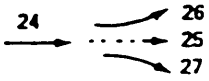
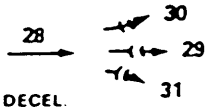
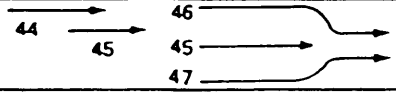
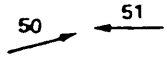
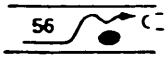
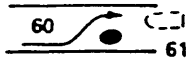
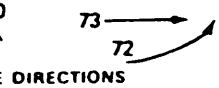
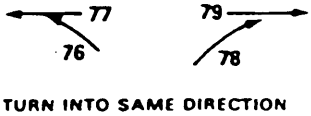
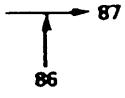
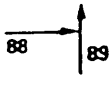
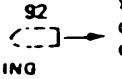
33. Attempted Avoidance Maneuver 01
- (00) No driver present
- (01) No avoidance maneuver
- (02) Braking (no lockup)
- (03) Braking (lockup)
- (04) Braking (lockup unknown)
- (05) Releasing brakes
- (06) Steering left
- (07) Steering right
- (08) Braking and steering left
- (09) Braking and steering right
- (10) Accelerating
- (11) Accelerating and steering left
- (12) Accelerating and steering right
- (98) Other action (specify): _____
- (99) Unknown

34. Pre-Impact Stability 1
- (0) No driver present
- (1) Tracking
- (2) Skidding longitudinally—rotation less than 30 degrees
- (3) Skidding laterally—clockwise rotation
- (4) Skidding laterally—counterclockwise rotation
- (7) Other vehicle loss-of-control (specify): _____
- (9) Precrash stability unknown

35. Pre-Impact Location 2
- (0) No driver present
- (1) Stayed in original travel lane
- (2) Stayed on roadway but left original travel lane
- (3) Stayed on roadway, not known if left original travel lane
- (4) Departed roadway
- (5) Remained off roadway
- (6) Returned to roadway
- (7) Entered roadway
- (9) Unknown

36. Accident Type 50
(Note: Applicable codes on back of this page)
- (00) No impact
  Code the number of the diagram that best describes the accident circumstance
- (98) Other accident type (specify): _____
- (99) Unknown

STOP HERE IF GV07 DOES NOT EQUAL 01 - 49

Category	Configuration	ACCIDENT TYPES (Includes Intent)				
I Single Driver	A Right Roadside Departure	 01 DRIVE OFF ROAD	 02 CONTROL/ TRACTION LOSS	 03 AVOID COLLISION WITH VEH., PED., ANIM.	04 SPECIFICS OTHER	05 SPECIFICS UNKNOWN
	B Left Roadside Departure	 06 DRIVE OFF ROAD	 07 CONTROL/ TRACTION LOSS	 08 AVOID COLLISION WITH VEH., PED., ANIM.	09 SPECIFICS OTHER	10 SPECIFICS UNKNOWN
	C Forward Impact	 11 PARKED VEH.	 12 STA. OBJECT	 13 PEDESTRIAN/ ANIMAL	 14 END DEPARTURE	15 SPECIFICS OTHER	16 SPECIFICS UNKNOWN
II Same Trafficway Same Direction	D Rear-End	 20 22 21 23 STOPPED 21, 22, 23	 24 26 25 27 SLOWER 25, 26, 27	 28 30 29 31 DECEL. 29, 30, 31	(EACH • 32) SPECIFICS OTHER	(EACH • 33) SPECIFICS UNKNOWN
	E Forward Impact	 34 35 CONTROL/ TRACTION LOSS	 36 37 CONTROL/ TRACTION LOSS	 38 39 AVOID COLLISION WITH VEH.	 40 41 AVOID COLLISION WITH OBJECT	(EACH • 42) SPECIFICS OTHER	(EACH • 43) SPECIFICS UNKNOWN
	F Sideswipe Angle	 44 45 46 45 47			(EACH • 48) SPECIFICS OTHER	(EACH • 49) SPECIFICS UNKNOWN	
III Same Trafficway Opposite Direction	G Head-On	 50 51 LATERAL MOVE	(EACH • 52) SPECIFICS OTHER		(EACH • 53) SPECIFICS UNKNOWN		
	H Forward Impact	 54 55 CONTROL/ TRACTION LOSS	 56 57 CONTROL/ TRACTION LOSS	 58 59 AVOID COLLISION WITH VEH.	 60 61 AVOID COLLISION WITH OBJECT	(EACH • 62) SPECIFICS OTHER	(EACH • 63) SPECIFICS UNKNOWN
	I Sideswipe Angle	 64 65 LATERAL MOVE	(EACH • 66) SPECIFICS OTHER		(EACH • 67) SPECIFICS UNKNOWN		
IV Change Trafficway Vehicle Turning	J Turn Across Path	 68 69 INITIAL OPPOSITE DIRECTIONS	 71 70  73 72 INITIAL SAME DIRECTIONS			(EACH • 74) SPECIFICS OTHER	(EACH • 75) SPECIFICS UNKNOWN
	K Turn Into Path	 76 77 79 78 TURN INTO SAME DIRECTION	 80 81 83 82 TURN INTO OPPOSITE DIRECTIONS			(EACH • 84) SPECIFICS OTHER	(EACH • 85) SPECIFICS UNKNOWN
V Intersecting Paths (Vehicle Damage)	L Straight Paths	 87 86  88 89			(EACH • 90) SPECIFICS OTHER	(EACH • 91) SPECIFICS UNKNOWN	
VI Miscellaneous	M Backing Etc	 92 BACKING VEH 93 OTHER VEH OR OBJECT			98 Other Accident Type 99 Unknown Accident Type 00 No Impact		

OCCUPANT RELATED

37. Driver Presence in Vehicle: 1
(0) Driver not present
(1) Driver present
(9) Unknown

38. Number of Occupants This Vehicle: 01
(00-96) Code actual number of occupants for this vehicle
(97) 97 or more
(99) Unknown

39. Number of Occupant Forms Submitted: 01

AIR BAG RELATED

40. Is this an AOPS Vehicle? 0
(0) No (includes unknown)
(1) Yes - researcher determined
(2) VIN determined air bag system
(3) VIN determined automatic (passive) belts
(4) VIN determined air bag and automatic (passive) belts

41. Air Bag(s) Deployment, First Seat Frontal 0
(0) Not equipped or not available
(1) No air bags deployed

Single Air Bag Vehicle
(2) Driver air bag deployed
(3) Driver air bag, unknown if deployed

Multiple Air Bag Vehicle
(4) Driver side only deployed
(5) Passenger side only deployed
(6) Driver and passenger side deployed
(7) Driver and passenger side unknown if deployed
(8) Air bag(s) deployed, details unknown
(9) Unknown

42. Air Bag(s) Deployment, Other Than First Seat Frontal 0
(0) Not equipped with an "other" air bag
(1) Deployed during accident (as a result of impact)
(2) Deployed inadvertently just prior to accident
(3) Deployed, details unknown
(4) Deployed as a result of a noncollision event during accident sequence (e.g., fire, explosion, electrical)
(5) Unknown if deployed
(7) Nondeployed
(9) Unknown

Specify type of "other" air bag present: _____

VEHICLE WEIGHT ITEMS

43. Vehicle Curb Weight 1600
____ Code weight to nearest 10 kilograms.
(045) Less than 454 kilograms
(612) 6,124 kilograms or more
(999) Unknown
3532 lbs X 4536 = 1602 kgs

Source: _____

44. Vehicle Cargo Weight .100
____ Code weight to nearest 10 kilograms.
(000) Less than 5 kilograms
(454) 4,536 kilograms or more
(999) Unknown
.220 lbs X .4536 = .100 kgs

Source: _____

ROLLOVER DATA

45. Rollover 00
(00) No rollover (no overturning)

Rollover (primarily about the longitudinal axis)
(01-16) Code the number of quarter turns
(17) Rollover, 17 or more quarter turns (specify): _____
(98) Rollover--end-over-end (i.e., primarily about the lateral axis)
(99) Rollover (overturn), details unknown

46. Rollover Initiation Type 00
(00) No rollover
(01) Trip-over
(02) Flip-over
(03) Turn-over
(04) Climb-over
(05) Fall-over
(06) Bounce-over
(07) Collision with another vehicle
(08) Other rollover initiation type specify): _____
(98) Rollover--end-over-end
(99) Unknown rollover initiation type

47. Location of Rollover Initiation 0
(0) No rollover
(1) On roadway
(2) On shoulder—paved
(3) On shoulder—unpaved
(4) On roadside or divided trafficway median
(8) Rollover--end-over-end
(9) Unknown

48. Rollover Initiation Object Contacted 00
(Note: Applicable codes on back of page)

49. Location on Vehicle Where Initial Principal Tripping Force Is Applied 0
(0) No rollover
(1) Wheels/tires
(2) Side plane
(3) End plane
(4) Undercarriage
(5) Other location on vehicle (specify): _____
(6) Non-contact rollover forces (specify): _____
(8) Rollover--end-over-end
(9) Unknown

50. Direction of Initial Roll 0
(0) No rollover
(1) Roll right - primarily about the longitudinal axis
(2) Roll left - primarily about the longitudinal axis
(8) Rollover--end-over-end
(9) Unknown roll direction

OVERRIDE/UNDERRIDE (THIS VEHICLE)

51. Front Override/Underride (this Vehicle) 0

52. Rear Override/Underride (this Vehicle) 0

(0) No override/underride, or not an end-to-end impact between two CDS applicable vehicles, and no medium/heavy truck or bus underride

Override (see specific CDC)
[Between 2 CDS applicable vehicles (Bodytype, GV07 = 1-49)]
(1) 1st CDC
(2) 2nd CDC
(3) Other not automated CDC (specify):

_____

Underride (see specific CDC)
[Between 2 CDS applicable vehicles (Bodytype, GV07 = 1-49)]
(4) 1st CDC
(5) 2nd CDC
(6) Other not automated CDC (specify):

_____

(7) Medium/heavy truck or bus override (of any configuration)
(9) Unknown

HEADING ANGLE AT IMPACT FOR HIGHEST DELTA V

Values: (000)-(359) Code actual value
(996) Non-horizontal impact
(997) Noncollision
(998) Impact with object
(999) Unknown

53. Heading Angle For This Vehicle 245

54. Heading Angle For Other Vehicle 090

RECONSTRUCTION DATA

55. Towed Trailing Unit 0
(0) No towed unit
(1) Yes—towed trailing unit
(9) Unknown

56. Documentation of Trajectory Data for This Vehicle 0
(0) No
(1) Yes

57. Post Collision Condition of Tree or Pole (For Highest Delta V) 0
(0) Not collision (for highest delta V) with tree or pole
(1) Not damaged
(2) Cracked/sheared
(3) Tilted <45 degrees
(4) Tilted ≥45 degrees
(5) Uprooted tree
(6) Separated pole from base
(7) Pole replaced
(8) Other (specify):

_____

(9) Unknown

ACCIDENT RECONSTRUCTION PROGRAMS HIGHEST DELTA V

58. Basis for Total (Resultant) Delta V (highest) 03

(00) No vehicle inspection

Delta V Calculated
(01) Reconstruction program-damage only routine
(02) Reconstruction program-damage and trajectory routine
(03) Missing vehicle algorithm

Delta V Not Calculated
(04) At least one vehicle (which may be this vehicle) is beyond the scope of an acceptable reconstruction program, regardless of collision conditions.

All vehicles within scope (CDC applicable) of reconstuction program but one of the collision conditions is beyond the scope of the reconstruction program or other acceptable reconstruction technique, regardless of adequacy of damage data.

(05) Rollover
(06) Other non-horizontal forces
(07) Sideswipe type damage
(08) Severe override
(09) Yielding object
(10) Overlapping damage
(11) All vehicle and collision conditions are within scope of one of the acceptable reconstruction programs, but there is insufficient data available, (specify):

_____

_____

(98) Other, (specify): _____

_____

COMPUTER GENERATED CRASH SEVERITY

59. Total Delta V — Highest: 048

48 Nearest kmph (highest)

_____ Nearest kmph (secondary)

(NOTE: 000 means less than 0.5 kmph)
(160) 159.5 kmph and above
(999) Unknown

60. Longitudinal Component of Delta V — Highest: ± 048

−48 Nearest kmph (highest)

_____ Nearest kmph (secondary)

(NOTE: _000 means greater than -0.5 kmph and less than +0.5 kmph)
(±160) ±159.5 kmph and above
(_999) Unknown

61. Lateral Component of Delta V — Highest: ± 004

−4 Nearest kmph (highest)

_____ Nearest kmph (secondary)

(NOTE: _000 means greater than -0.5 kmph and less than +0.5 kmph)
(±160) ±159.5 kmph and above
(_999) Unknown

62. Energy Absorption — Highest: 168.900

168,912 Nearest 100 joules (highest)

_____ Nearest 100 joules (secondary)

(NOTE: 0000 means less than 50 joules)
(9997) 999,650 joules or more
(9999) Unknown

63. Impact Speed — Highest: 998

_____ Nearest kmph (highest)

_____ Nearest kmph (secondary)

(NOTE: 000 means less than 0.5 kmph)
(160) 159.5 kmph and above
(998) Trajectory algorithm not run
(999) Unknown

DELTA V CONFIDENCE LEVEL

64. Confidence In Reconstruction Program Results (For Highest Delta V) — 1
(0) No reconstruction
(1) Collision fits model — results appear reasonable
(2) Collision fits model — results appear high
(3) Collision fits model — results appear low
(4) Borderline reconstruction — results appear reasonable

OTHER SPEED ESTIMATE

65. Barrier Equivalent Speed — Highest: 046

45.8 Nearest kmph (highest)

_____ Nearest kmph (secondary)

(NOTE: 000 means less than 0.5 kmph)
(160) 159.5 kmph and above
(999) Unknown

ESTIMATED DELTA V

66. Estimated Highest Delta V (Researcher Determined) 0
(0) Reconstruction Delta V coded

Estimated Delta V
(1) Less than 10 kmph
(2) ≥ 10 kmph but < 25 kmph
(3) ≥ 25 kmph but < 40 kmph
(4) ≥ 40 kmph but < 55 kmph
(5) ≥ 55 kmph

Other estimates of damage severity
(6) Minor
(7) Moderate
(8) Severe

(9) Unknown

INSPECTION TYPE

67. Type of Vehicle Inspection 0
(0) No inspection
(1) Vehicle fully repaired-no damage evident
(2) Partial inspection (specify): _____
(3) Complete inspection

DELTA V EVENT NUMBER

68. Delta V Event Number 1
_____ Code the accident event sequence number that resulted in the Delta V that has been coded above for this vehicle
(99) Unknown

*** IF THE CDS APPLICABLE VEHICLE WAS NOT INSPECTED (I.E., GV67=0), ***

DO NOT COMPLETE THE EXTERIOR AND INTERIOR VEHICLE FORMS

*** IF GV07 DOES NOT EQUAL 01-49, DO NOT COMPLETE ***

THE EXTERIOR VEHICLE, INTERIOR VEHICLE,

OCCUPANT ASSESSMENT, AND OCCUPANT INJURY FORMS.

U.S. Department of Transportation
National Highway Traffic Safety Administration

EXTERIOR VEHICLE FORM

NATIONAL ACCIDENT SAMPLING SYSTEM
CRASHWORTHINESS DATA SYSTEM

1. Primary Sampling Unit Number: 10
2. Case Number - Stratum: 9616
3. Vehicle Number: 02

VEHICLE IDENTIFICATION

VIN: 1GTDC14HZGJ_____ Model Year: 86

Vehicle Make (specify): GMC

Vehicle Model (specify): SIERRA Classic Pickup

LOCATOR

Locate the end of the damage with respect to the vehicle's damaged center point or bumper corner for end impacts or an undamaged axle for side impacts.

Specific Impact No.	Location of Direct Damage	Location of Field L	Location of Max Crush
	*VEHICLE NOT INSPECTED		

CRUSH PROFILE IN CENTIMETERS

NOTES: Identify the plane at which the C-measurements are taken (e.g., at bumper, above bumper, at sill, above sill, etc.) and label adjustments (e.g., free space).

Measure C1 to C6 from driver to passenger side in front or rear impacts and rear to front in side impacts.

Free space value is defined as the distance between the baseline and the original body contour taken at the individual C locations. This may include the following: bumper lead, bumper taper, side protrusion, side taper, etc. Record the value for each C-measurement and maximum crush.

Use as many lines/columns as necessary to describe each damage profile.

Specific Impact Number	Plane of Impact C-Measurements	Direct Damage		Field L	C_1	C_2	C_3	C_4	C_5	C_6	±D
		Width (CDC)	Max Crush								
		*VEHICLE NOT INSPECTED									

HS Form 435A (Rev. 1/96)

ORIGINAL SPECIFICATIONS WORK SHEET

BEST AVAILABLE

Wheelbase	117.5	inches	x 2.54	=	298.5	cm
Overall Length	193.5	inches	x 2.54	=	491.5	cm
Maximum Width	79.6	inches	x 2.54	=	202.2	cm
Curb Weight	3,532	pounds	x 0.4536	=	1,602.1	kg
Average Track	___.___	inches	x 2.54	=	___	cm
Front Overhang	33.8	inches	x 2.54	=	86	cm
Rear Overhang	42.2	inches	x 2.54	=	107	cm
Undeformed End Width	___.___	inches	x 2.54	=	___	cm
Engine Size: cyl/displ.	____	cc	x 0.001	=	5.0	L
	305	CID	x 0.0164	=	5.0	L

Bronham's Shipping Weight V-6 3,282

V6 to V-8 100

3,482

Gasoline Truck Index

Curb Weight V-6 3,432

V-6 to V-8 100

3,532

SPECIAL CRASH INVESTIGATION ADDENDUM

Submodel Designation: {specify} **Color:** {specify} Blue **Repair Cost:** $

Transmission: {circle} Automatic | Manual **Speed:** 3-speed | 4-speed | 5-speed | Other:

Steering: {circle} Power-assisted | Manual **Type:** rack-and-pinion | worm-and-gear | (Other)
{please describe}: ? Either recirculating ball gear

Brakes: {circle} Power-assisted | Manual **Type:** 4-wheel disc | 4-wheel drum | 4-wheel hydraulic | (front disc, rear drum) | Other:
? Either

Observed Defects: {specify}

Fleet Type: {circle} (Private vehicle) | Rental vehicle | Leased vehicle | Commercial vehicle | Other
{please describe}:

VEHICLE DAMAGE SKETCH

TIRE–WHEEL DAMAGE

a. Rotation physically restricted		b. Tire deflated	
RF	2	RF	2
LF	9	LF	1
RR	2	RR	2
LR	2	LR	2

(1) Yes (2) No (8) NA (9) Unk.

TYPE OF TRANSMISSION
☐ Manual ☐ Automatic

END SHIFT ≥ 10 CM
☒ Yes ☐ No

ORIGINAL SPECIFICATIONS

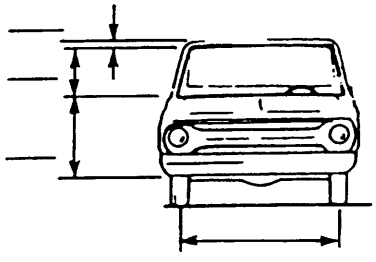
Wheelbase	298	cm
Overall Length	491	cm
Maximum Width	202	cm
Curb Weight	1,602	kg
Average Track	UNK	cm
Front Overhang	86	cm
Rear Overhang	107	cm
Undeformed End Width	UNK	cm
Engine Size: cyl./displ.	V-8 5.0	L

WHEEL STEER ANGLES
(For locked front wheels or displaced rear axles only)
RF ± ___ ___ °
LF ± ___ ___ °
RR ± ___ ___ °
LR ± ___ ___ °
Within ± 5 degrees

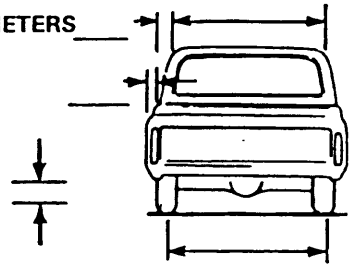
DRIVE WHEELS
☐ FWD ☒ RWD ☐ 4WD

Approximate Cargo Weight 100 kg

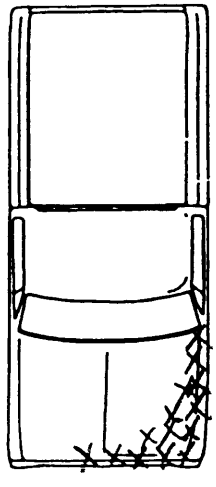
MEASUREMENTS IN CENTIMETERS

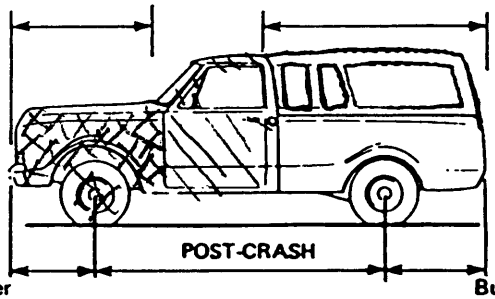


Original Bumper height

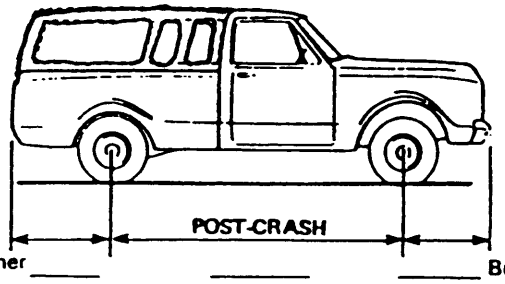


*VEHICLE NOT INSPECTED
Damage per photographs





Bumper corner ___ ___ ___ Bumper corner
Stringline ___ ___ Stringline



Bumper corner ___ ___ ___ Bumper corner
Stringline ___ ___ Stringline

NOTES: Sketch new perimeter and cross hatch direct damage and single hatch induced damage on all views. Annotate observations which might be useful in reconstructing the accident (e.g., grass in tire bead, direction of striations, scuff on sidewalls, etc.). If pulling trailer, sketch type of trailer and damage received on the back of this page.
Annotate any damage caused by extrication such as component removal by torching, prying, or hydraulic shears.

GMC Truck and Coach Div., General Motors Corp.,

Model	No. Cyl.	Bore & Stroke	Tax. H.P.	Max. G.V.W.	Type of Body	Ship. Wgt.	Ins. Wgt. W.B.	Class	List Price

1985

Application (FT6), 18M lbs. cap. (Rockwell FL941). add 419 lbs. $2360. **Power Steering,** add 81 lbs. $723. **Front Suspension:** 18M lbs. cap., add 134 lbs. $88. **Cab Equipment: (X77) Five Star General,** add 24 lbs. $306; **(BNZ) (Sleeper Box**—Alum. 34″) $600. **Dragfoiler,** add 57 lbs. $610. **Power Windows:** L.H. and R.H., add 3 lbs. $125. **Radio: Delco AM**—without sleeper box, add 7 lbs. $174; with sleeper box, add 11 lbs. $225.

ASTRO GLIDER 9500 SERIES—Detroit Diesel Eng. 6V-92T; 55″ BBC Cab, Dual Air Brakes.

D9K020	6	4.84x5.0	56.2	Variable	Fdont End Only	4445 F. Variable	NA		$22,289

Optional Equip.: Front Axle: Tractor Application (FT6) 18M lbs., Rockwell FL941, add $2552. **Power Steering,** Sheppard Gear only, add 105 lbs. $723. **Front Suspension:** 18M lbs. $88. **Dragfoiler** (Reduces air drag), add 66 lbs. $610. **Radio Delco AM,** add 10 lbs. $174; **AM/FM.** add 10 lbs. $350. **Windows, power operated** R.H. & L.H., add 2 lbs. $250. **Air Conditioning Provisions,** add 40 lbs. $296.

ASTRO SLEEPER GLIDER SERIES—Det. Diesel Eng. 6V-92T—87″ BBC Cab, Dual Air Brakes.

D9L020	6	4.84x5.0	56.2	Variable	Front End Only	4486 Variable	NA		$23,623

Optional Equip.: Cab Equip.: (E21) 24″ Sleeper Cab, Dlx. Alum. $603. **For other equip., see Model D9K020.**

1986

LIGHT DUTY CONVENTIONAL MODELS— GASOLINE— 2 & 4-WHEEL DRIVES, PICKUP (PU)

S-10/15 Series, 2-Wheel Drive (2.5 L. (151) L4 EFI Gas. Eng., 4-Spd. Manual. (EC) Extended Cab

S10603	4	4.00x3.00	25.60	4,800	6' PU (X96)	2,475	108.3″	L	$7,046
S10803				5,000	7'5″ PU (E63)	2,546	117.9″	L	7,281
S10653				5,100	6' PU EC (E63)	2,614	122.9″	L	7,733
S10603-E63				5,100	6' PU (X81)	2,475	108.3″	L	5,990

S-10/15 Series, 4-Wheel Drive (2.5 L. (151) L4 EFI Gas Eng., 4-Spd. Manual; (EC) Extended Cab.

T10603	4	4.00x3.00	25.60	4,984	6' PU (E63)	2,806	108.3″	L	$8,907
T10803				5,368	7'5″ PU (E63)	2,853	117.9″	L	9,065
T10653				5,368	6' PU EC (E63)	2,932	122.9″	L	9,393

Optional Equip.: Engine: 2.8 L., V6, EFI, T1 Series: LL2, $275.00; **Trans.** 4-spd. Auto. w/O.D. $695; 5-spd. Manual w/O.D. $175; **Air Conditioning:** $740; **Power Door Locks** $135; **Radio:** AM/FM $82; **Electronic Speed Controls** $195; **Tilt Steering Wheel** $115; **Power Windows** $190; **Power Steering** $260.

C/K PICKUP— REGULAR CAB, Gas Engine: 4.3 L. (262) V6-4-bbl. (LB1) Gas Eng.

C10/C1500 Series, 2-Wheel Drive; Fleetside/Wideside (F/W); Stepside/Fenderside (S/F)

Body Codes— E62, E63, C6P, B3J

C10703	6	4.00x3.48	38.40	4,900	6'5″ (E62)	3,282	117.5″	L	$7,955
C10703				4,900	6'5″ (E63)	3,282	117.5″	L	7,815
C10903				4,900	8' (E63)	3,445	131.5″	L	7,989

C20/2500 Series, 2-Wheel Drive

C20903	6	4.00x3.48	38.40	6,400	8' F/W (E63)	3,842	131.5″	L	$9,164
C20903 w/C6P				6,400	8' S/F (E62)	3,939	131.5″	L	9,304

K10/1500 Series, 4x4

K10703	6	4.00x3.48	38.40	6,100	6'5″ F/W (E63)	3,871	117.5″	L	$10,375
K10703				6,100	6'5″ S/F (E62)	3,871	117.5″	L	10,516
K10903				6,100	8' F/W (E63)	4,050	131.5″	L	10,552

Gas Engine: 4.8 L. (292) L8, 1-bbl. (Code L25)

C20/C2500/C6P Series: H.D. Chassis, 2-Wh. Drive (Body Codes: (A) E62/C6P; (B) E63/C6P

C20903	6	3.88x4.12	36.13	6,400	8' F/W (B)	3,996	131.5″	L	$10,153
C20903				6,400	8' S/F (A)	3,939	131.5″	L	10,292

C20/2500 Series: 2 W.D. Bonus Cab (BC), Crew Cab (CC): (1) E63/YG4; (2) E63/A83.

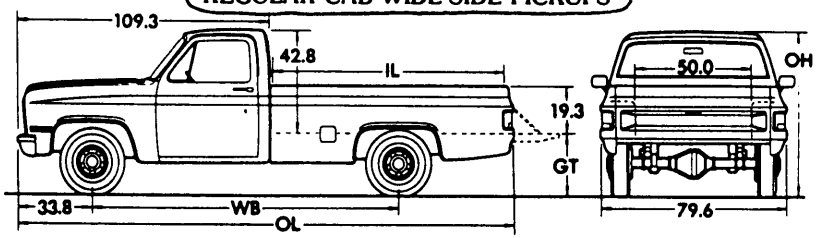
C20943	6	3.88x4.12	36.13	8,600	8' BC (F/W)(1)	4,623	164.5″	L	$11,150
C20943				8,600	8' CC (F/W)(1)	4,684	164.5″	L	11,498

C30/3500 Series: 2 W.D.

C30903	6	3.88x4.12	36.13	9,000	8' (F/W) (E63)	4,276	131.5″	L	$10,238
C30903				9,000	8' SF (E62)	4,276	131.5″	L	10,377

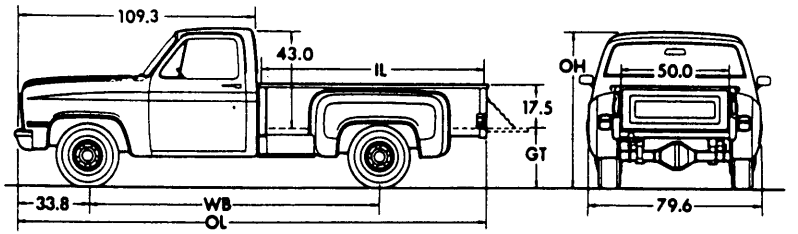
GMC PICKUPS—C-K-1500, 2500, 3500

REGULAR CAB WIDE-SIDE PICKUPS



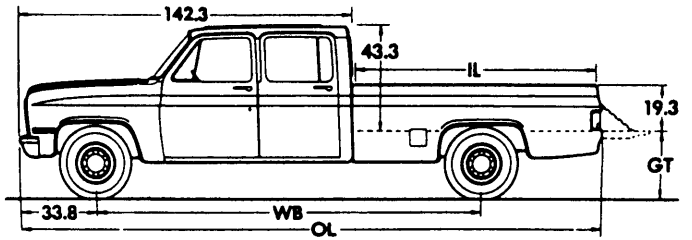
4x2: All Models. 4x4: All Models.

REGULAR CAB FENDER-SIDE PICKUP



4x2: C-1500, 2500, 2500/C6P 4x4: K-1500, 2500, 2500/C6P

CREW CAB & BONUS CAB WIDE-SIDE PICKUPS



4x2: C-2500, 3500 4x4: K-3500

GMC PICKUPS -- C-1500 SERIES

GVW Ratings: 4,900-6,100 Lbs.

ENGINE: Standard: GMC 4.3L 262-4 V6, 155 NHP @ 4000 RPM.
Optional: GMC 5.0L 350-4 V8, 160 NHP @ 4400 RPM.
Calif. engines: GMC 4.3L 262-4 V6, 155 NHP @ 4000 RPM.
GMC 5.0L 305-4 V8, 155 NHP @ 4000 RPM.

MODELS AVAILABLE: 6.5' or 8' Wide-Side or Fender-Side Pickup body, Regular cab.

GVW RATING	MINIMUM EQUIPMENT REQUIRED FOR GVW RATING
4,900	Standard
5,200	Vacuum Power Hyd. Brakes w/9.5" dia. vacuum booster; P205/75R15 tires.
5,600	1,750 lb. HD r. springs; Vacuum Power Hyd. Brakes w/9.5" dia. vacuum booster; P205/75R15 tires.
6,100	2,000 lb. HD rear springs; Power assit Hyd. brakes, 11.86 x 1.28" disc front & 11.15 x 2.75 drum rear; P235/75R15 tires.

CURB WEIGHTS & DIMENSIONS: (Standard equipment, 6-cyl. engine)

Model	Front	Rear	Total	WB	IL	OH	OL
C10703 Wideside	2,009	1,423	3,432	117.5	78.2	69.2	193.5
C10903 Wideside	2,088	1,507	3,595	131.5	98.1	69.2	212.2
C10703 Fenderside	2,007	1,378	3,385	117.5	78.4	69.5	191.1

GENERAL SPECIFICATIONS

FRONT AXLE: Independent front suspension, rated capacity 2,950 lbs., 7.6" clearance (7.5" w/Fender-Side pickup).
REAR AXLE: Salisbury axle, single reduction, hypoid drive, 3,750 lb. capacity, 2.73 ratio, 7.3" clearance (7.2" w/Fender-Side pickup). Optional: Standard axle with 3.08, 3.42, or 3.73 ratios; locking differential rear axle.
SERVICE BRAKES: Hydraulic, self-adjusting, 11.86 x 1.04" rotor disc front 239.6 sq. in. swept front area, 11 x 2 drum rear, 138.2 sq. in. swept area. Optional: Vacuum Hydraulic, incl. 9.5" dia. single diaphragm vacuum power booster, 11.86 x 1.00" disc front & 11 x 2 drum rear brakes; Vacuum Hydraulic, incl. 9.5 x 8 dia. Dual diaphragm vacuum booster, 11.86 x 1.29" disc front & 11.15 x 2.75 drum rear, 192.7 sq. in swept area, includes hyd. power booster.
PARKING BRAKES: Cable to rear wheels.
CLUTCH: Single plate, dry disc, 11" dia., 124 sq. in. frictional area.

GMC PICKUPS—C-1500 SERIES

COOLING SYSTEM: w/4.3L eng., 3.4 gallon capacity; 358 sq. in frontal area radiator, 19" dia. 3-blade fan. Optional: w/5.0L eng., 4.3 gal. 384 sq.in. radiator.

DRIVE LINE: Tubular shafts, needle bearing universal joints.

ELECTRICAL SYSTEM: 12 volt; 37 amp. alternator; 405 CCA battery.

FRAME: 36-39,000 psi, carbon steel, 5.92 x 2.30 x 0.154 side rails, 3.10 section modulus.

FUEL TANK: 117.5" wb., 16 gallon capacity; 131.5" wb., 20 gallon capacity. Optional: 16 gallon LH & RH tanks.

STEERING: Saginaw 525, Manual, recirculating ball gear, parallelogram linkage, ratio 24:1, 16" dia. 2-spoke wheel. Optional: Integral power steering, ratio 13:1; tilt steering wheel.

SUSPENSION: Front - Coil springs, capacity at ground 1,475 lbs each. Rear - Semi elliptic, two-stage, multi-leaf, 52 x 2.5, 4-leaf, capacity at ground 1,550 lbs. each. Optional: Front - Coil springs, 1,625 lbs. or 1,700 lbs. each. Rear - 52 x 2.5, 5-leaf, capacity at ground 1,750 lbs. each; 56 x 2.5, 6-leaf, capacity at ground 2,000 lbs. each.

TRANSMISSION: GMC 3-speed manual, fully synchronized, steering column shift; ratios w/4.3L eng. 3.50, 1.89, 1.00, reverse 3.62; ratios w/5.0L eng. 2.85, 1.68, 1.00, reverse 2.95. Optional: SM465 4-speed manual; 4-speed manual w/overdrive; 3-speed automatic; 4-speed automatic w/OD.

WHEELS AND TIRES: P195/75R15 Fiberglass Belted Radial, front, single rear and spare tubeless tires on 15 x 6.0" rims, disc wheels. Optional: P205, P225, or P235/75R15's; LR60-15B w/Fenderside pickup only; 15 x 7 or 15 x 8" Rally or Styled Steel disc wheels; 15 x 7 Cast aluminum wheels.

STANDARD EQUIPMENT: 109.3 BBC Conventional cab, Sierra decor features, incl. front chromed bumper; 3-7/16" x 4" fixed arm side mirrors, underframe spare tire carrier, mechanical jack & wrench; oiled paper element air filter; throw away type oil filter; single aluminized exhaust system; emission control system; 25 mm dia. front and rear shock absorbers; 2-speed electric windshield wipers and washers; full width bench seat.

OPTIONAL EQUIPMENT: High Sierra or Sierra Classic custom options; air conditioning; increased capacity electrical and cooling systems; Glide-out, or side mounted spare wheel carrier; Cold Climate package; Automatic speed control; Calif. or High Altitude emission systems; Operating Convenience package; Rear bumper; Power windows & locks; HD shocks; Pickup box side rails; 9 x 6.5 or 7.5 x 10.5 side mirrors; Radio equipment; 3-speed windshield wipers; 1" front stabilizer bar.

GMC TRUCK ENGINES

MODEL	2.5L 151-EFI L4	2.8L 173-EFI V6	4.3L 262-EFI V6	4.3L 262-EFI V6
Available with	Safari & S-15	S-15	Caballero	Safari
Type	Valve-in-Head	Valve-in-Head	Valve-in-Head	Valve-in-Head
Displacement	151.0 cu. in.	173.0 cu. in.	262.0 cu. in.	262.0 cu. in.
Bore and Stroke	4.00 x 3.00	3.50 x 2.99	4.00 x 3.48	4.00 x 3.48
Net Horsepower	92 @ 4400*	125 @ 4800*	140 @ 4000*	145 @ 4000*
Net Torque	134 @ 2800*	150 @ 2200*	225 @ 2000*	230 @ 2400*
Compression Ratio	9.0 to 1	8.5 to 1	9.3 to 1	9.3 to 1
Carburetor/Injector	----------Rochester Throttle Body Injection----------			

MODEL	4.3L 262-4 V6	4.3L 262-4 V6	4.8L 292-1 IL-Six	4.8L 292-1 IL-Six
Available with	C/K1500, & C2500	G1500,2500,3500	C/K/P2500,3500	C/K/P2500,3500
Type	Valve-in-Head	Valve-in-Hand	Valve-in-Head	Valve-in-Head
Displacement	262 cu. in.	262 cu. in.	292 cu. in.	292 cu. in.
Bore and Stroke	4.00 x 3.48	4.00 x 3.48	3.88 x 4.12	3.88 x 4.12
Net Horsepower	155 @ 4000*	145 @ 4000*	115 @ 4000**(F)	115 @ 3600**(C)
Net Torque	230 @ 2400*	225 @ 2400*	210 @ 800**(F)	215 @ 1600**(C)
Compression Ratio	9.3 to 1	9.3 to 1	7.8 to 1	7.8 to 1
Carburetor	Rochester 4-bbl	Rochester 4-bbl	Rochester 1-bbl	Rochester 1-bbl

MODEL	5.0L 305-4 V8	5.0L V8 w/ESC	5.0L 305-4 V8	5.7L 350-4 V8
Available with	Caballero	C/K/G1500, 2500	C1500, G1500/2500	C/K/G1500-3500
Type	Valve-in-Head	Valve-in-Head	Valve-in-Head	Valve-in-Head
Displacement	305 cu.in.	305 cu. in.	305 cu. in.	350 cu. in.
Bore and Stroke	3.74 x 3.48	3.74 x 3.48	3.74 x 3.48	4.00 x 3.48
Net Horsepower	150 @ 4000*	160 @ 4400*(F)	155 @ 4000*(C)	165 @ 3800*
Net Torque	240 @ 2000*	235 @ 2000*(F)	245 @ 1600*(C)	275 @ 1600*
Compression Ratio	9.5 to 1	9.2 to 1	8.6 to 1	8.2 to 1
Carburetor	Rochester 4-bbl	Rochester 4-bbl	Rochester 4-bbl	Rochester 4-bbl

* - Light Duty emission, 8,500 lb. GVWR and below. (C) - Available in California only.
** - Heavy Duty emission, 8,501 lb. GVWR and above. (F) - Avail. in All States except Calif.

GMC

CDC WORKSHEET

CODES FOR OBJECT CONTACTED

(01-30) — Vehicle Number

Noncollision
- (31) Overturn — rollover (excludes end-over-end)
- (32) Rollover—end-over-end
- (33) Fire or explosion
- (34) Jackknife
- (35) Other intraunit damage (specify): _____
- (36) Noncollision injury
- (38) Other noncollision (specify): _____
- (39) Noncollision — details unknown

Collision With Fixed Object
- (41) Tree (≤ 10 cm in diameter)
- (42) Tree (> 10 cm in diameter)
- (43) Shrubbery or bush
- (44) Embankment
- (45) Breakaway pole or post (any diameter)

Nonbreakaway Pole or Post
- (50) Pole or post (≤ 10 cm in diameter)
- (51) Pole or post (> 10 cm but ≤ 30 cm in diameter)
- (52) Pole or post (> 30 cm in diameter)
- (53) Pole or post (diameter unknown)
- (54) Concrete traffic barrier
- (55) Impact attenuator
- (56) Other traffic barrier (includes guardrail) (specify): _____
- (57) Fence
- (58) Wall
- (59) Building
- (60) Ditch or culvert
- (61) Ground
- (62) Fire hydrant
- (63) Curb
- (64) Bridge
- (68) Other fixed object (specify): _____
- (69) Unknown fixed object

Collision with Nonfixed Object
- (70) Passenger car, light truck, van, or other vehicle not in-transport
- (71) Medium/heavy truck or bus not in-transport
- (72) Pedestrian
- (73) Cyclist or cycle
- (74) Other nonmotorist or conveyance _____
- (75) Vehicle occupant
- (76) Animal
- (77) Train
- (78) Trailer, disconnected in transport
- (79) Object fell from vehicle in-transport
- (88) Other nonfixed object (specify): _____
- (89) Unknown nonfixed object
- (98) Other event (specify): _____
- (99) Unknown event or object

DEFORMATION CLASSIFICATION BY EVENT NUMBER

Accident Event Sequence Number	Object Contacted	(1) (2) Direction of Force (degrees)	Incremental Value of Shift	(3) Deformation Location	(4) Specific Longitudinal or Lateral Location	(5) Specific Vertical or Lateral Location	(6) Type of Damage Distribution	(7) Deformation Extent
01	01	360	00	F	Y	E	W	04

COLLISION DEFORMATION CLASSIFICATION

HIGHEST DELTA "V"

Accident Event Sequence Number	Object Contacted	(1) (2) Direction of Force	(3) Deformation Location	(4) Longitudinal or Lateral Location	(5) Vertical or Lateral Location	(6) Type of Damage Distribution	(7) Deformation Extent
4. 01	5. 01	6. 12	7. F	8. Y	9. E	10. W	11. 04

Second Highest Delta "V"

12.	13.	14.	15.	16.	17.	18.	19.

CRUSH PROFILE IN CENTIMETERS

The crush profile for the damage described in the CDC(s) above should be documented in the appropriate space below. (ALL MEASUREMENTS ARE IN CENTIMETERS.)

HIGHEST DELTA "V"

20. L	21. C_1	C_2	C_3	C_4	C_5	C_6	22. ±D
							+ −

Second Highest Delta "V"

23. L	24. C_1	C_2	C_3	C_4	C_5	C_6	25. ±D
							+ −

26. Undeformed End Width (Coded when highest severity impact is an end plane impact.) 999
- ____ Code to the nearest centimeter
- (250) 250 centimeters or more
- (998) No highest severity end plane impact
- (999) Unknown

27. Direct Damage Width (For highest severity impact) 999
- ____ Code to the nearest centimeter
- (250) 250 centimeters or more
- (999) Unknown

28. Original Wheelbase 298
- 298 Code to the nearest centimeter
- (650) 650 centimeters or more
- (999) Unknown

117.5 inches X 2.54 = 298 centimeters

29. Original Average Track Width 999
- ____ Code to the nearest centimeter
- (185) 185 centimeters or more
- (999) Unknown

____.__ inches X 2.54 = ___ centimeters

NASS CDS INTERVIEW FORM:
CASE VEHICLE DRIVER

U.S. Department of Transportation
National Highway Traffic Safety Administration

BEST AVAILABLE

INTERVIEW FORM (A)

NATIONAL ACCIDENT SAMPLING SYSTEM
CRASHWORTHINESS DATA SYSTEM

1. Primary Sampling Unit Number 10
2. Case Number - Stratum 9616
3. Vehicle Number 01

Interviewee(s) Role or Name(s): FATHER OF DRIVER

Phone number:

Review all available information and interview questions prior to conducting interview(s) to ensure the acquisition of all pertinent data.

If the driver was not the person interviewed, was an appointment made for a follow-up interview?

DRIVER'S DESCRIPTION OF ACCIDENT EVENTS

Not Applicable

Roof in vehicle twice

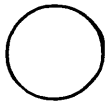
OCCUPANT'S DESCRIPTION OF ACCIDENT EVENTS

Not Applicable

SPECIFIC QUESTIONS TO ASK INTERVIEWEE

High School Teacher came by scene and talked to Father

ACCIDENT DIAGRAM



Use this diagram to aid in relating interviewee accident trajectory data (i.e., pre-impact to FRP orientations) to identifiable objects in the environment.

NORTH

AS PER AN INTERVIEW WITH A WESTBOUND WITNESS 5-TO-6 VEHICLES BEHIND VEHICLE #2, THE PICKUP TRUCK (U-2) HAD BEEN PASSING VEHICLES RECKLESSLY AND AT HIGH SPEEDS FOR OVER 8 MILES. THE ROAD IS HILLY AND TWISTING. VEHICLE #2 WAS REPORTED TO HAVE PASSED ON DOUBLE-SOLID YELLOW CENTERLINES. TRAFFIC DENSITY WAS HIGH FOR WESTBOUND VEHICLES AS A CONCERT HAD ENDED SOME FIVE MILES EAST OF THE CRASH SCENE. ACCORDING TO THE WITNESS, NO ONE WAS CLOSE ENOUGH TO VEHICLE #2 TO SEE THE IMPACT WITH THE CASE VEHICLE. THE WITNESS REPORTEDLY CONVERSED WITH OCCUPANTS OF A VEHICLE FIRST IN LINE BEHIND U-2.

SPECIFIC QUESTIONS FOR THE RESIDENT PATHOLOGIST WHO PERFORMED THE AUTOPSIES

	Case Vehicle's Driver	Case Vehicle's Right Front Occupant
Did you determine of the amount (in millimeters) of subluxation (dislocation)?	Do not measure	Do not measure
Did you determine the direction of the subluxation (i.e., anterior, posterior, lateral, superior, or some combination)?	Posteriorly	Posteriorly
Each occupant's autopsy states: "The spinal cord is not examined." Were the spinal cords not examined because they:		
"most likely" did not sustain any lesions, or ***"most likely"*** did sustain lesions?	The spinal cord is assumed injured when an atlanto-occipital subluxation occurs	The spinal cord is assumed injured when an atlanto-occipital subluxation occurs
The right front passenger's autopsy indicated that she sustained a lacerated basilar artery as a result of the subluxation. Did you determine whether the laceration was:		
"most likely" a shearing type (transection) injury, or ***"most likely"*** was a tension type (stretching) injury?		The lesion was a stretching (tension) type injury rather than a shearing type injury because there were no cervical fractures
The autopsy indicated that the injuries were of the deceleration type, as opposed to the impact type. What do you think caused the deceleration injury?		Suspected that this occupant's head hyperflexed backwards over the top of her seatback
Were you aware that the driver and right front passenger were occupants of an air bag-equipped vehicle when you performed their autopsies?	No	No

CRASH DATA INFORMATION

IF POSSIBLE OBTAIN THIS INFORMATION FROM THE DRIVER:

SOURCE OF INFORMATION:	[ ] Driver [ ] Other occupant [X] Relative/friend
TRAVEL DIRECTION?	[ ] North [ ] South [X] East [ ] West (Or where were they coming from or going to?)
LANE?	[X] 1 [ ] 2 [ ] 3 [ ] 4 [ ] Other Note: lane 1 is the right curb lane
ROAD CONDITION?	[ ] Dry [ ] Wet [ ] Snow [ ] Slush [ ] Ice [ ] Sand, dirt, oil [ ] Other (specify) PAR
WEATHER CONDITIONS? (Check all that apply)	[ ] No adverse conditions PAR [ ] Rain [ ] Fog [ ] Sleet [ ] Hail [ ] Snow [ ] Other (specify)
SIGN OR SIGNAL PRESENT? (check all that apply)	[ ] Traffic control signal (includes flashing beacons, lane control signals, and green / amber / red signal) [ ] Stop sign [ ] Yield sign [ ] School zone sign [ ] Other regulatory sign (No "U" turn, left turn only, wrong way, etc.) specify: _____ [ ] Warning sign (Winding road sign, stop ahead, intersection signs, etc.) specify: _____ [ ] Miscellaneous control (including railroad controls) specify: _____ [X] None SI [ ] Unknown
WAS THE CONTROL FUNCTIONING PROPERLY?	[X] No traffic control device present [ ] Not functioning properly (includes defaced, badly worn, covered with snow, rotated etc.) specify: [ ] Functioning properly [ ] Unknown
SPEED BEFORE THE IMPACT? (in mph)	[ ] Stopped [ ] 11-20 [ ] 31-40 [ ] 51-60 [ ] 70+ PAR [ ] 1-10 [ ] 21-30 [ ] 41-50 [ ] 61-70 [ ] Unknown
BEFORE IMPACT, INTENDING TO ... ? (check all that apply)	[ ] Go straight [ ] Stopped [ ] Turn left [ ] Turn right [ ] Slow down [ ] Accelerate [ ] Back up [ ] Change lanes to right [ ] Other (specify): [ ] Change lanes to left PAR
CONTROL LOSS DUE TO WEATHER OR MECHANICAL PROBLEMS?	[ ] No [ ] Unknown [ ] Yes (describe) PAR
AVOIDANCE ACTIONS?	[ ] None [ ] Braking with lock-up [ ] Accelerating [X] Unknown [ ] Braking without lock-up [ ] Steering left [ ] Other- specify: [ ] Releasing brakes [ ] Steering right
LOCATION OF VEHICLE AT TIME OF IMPACT?	[X] Original travel lane [ ] Different travel lane [ ] In intersection [ ] Off roadway to right [ ] Off roadway to left [ ] Other (specify): _____
SPEED AT THE TIME OF IMPACT? (in mph)	[ ] Stopped [ ] 11-20 [ ] 31-40 [ ] 51-60 [ ] 70+ [ ] 1-10 [ ] 21-30 [ ] 41-50 [ ] 61-70 [X] Unknown
DESCRIBE ALL THE IMPACTS to the vehicle and how this vehicle moved to its stopped position, after the collision?	No first hand knowledge

VEHICLE INFORMATION

ROLLOVER DATA

DID THIS VEHICLE ROLL OVER DURING THE CRASH? SI

[ ] YES - - ASK THE FOLLOWING QUESTIONS

[X] NO - - SKIP TO "FIRE DATA" BELOW
[ ] UNKNOWN - - SKIP TO "FIRE DATA" BELOW

ROLLOVER BEGAN	[ ] On roadway [ ] On shoulder [ ] On roadside or median [ ] Unknown
ROLLOVER CAUSE?	[ ] Other vehicle (specify vehicle number) ____ [ ] Contact to object (specify): _____ [ ] Other cause (specify): _____ [ ] Unknown
DIRECTION OF VEHICLE ROLL?	[ ] Toward the right (passenger side) [ ] Toward the left (driver side) [ ] End-over-end [ ] Unknown
NUMBER OF TURNS	____ Number of QUARTER TURNS [ ] Unknown ____ Number of COMPLETE TURNS
PLANE IN CONTACT WITH GROUND AT FINAL REST?	[ ] Left side [ ] Top [ ] Right side [ ] Wheels [ ] Unknown

FIRE DATA

DID THIS VEHICLE EXPERIENCE A FIRE? PAR

[ ] YES - - ASK THE FOLLOWING QUESTIONS

[X] NO - - SKIP THIS SECTION
[ ] UNKNOWN - - SKIP THIS SECTION

FIRE STARTED, OR SMOKE WAS FIRST SEEN ...	[ ] Under the hood [ ] In the trunk/cargo area [ ] Behind the instrument panel [ ] Under the vehicle [ ] In the passenger compartment [ ] From other involved vehicle [ ] Unknown
FIRE START WITH THE ELECTRICAL SYSTEM? [ ] No [ ] Unknown	[ ] Yes (specify):
FIRE START WITH THE FUEL SYSTEM? [ ] No [ ] Unknown	[ ] Yes - - specify Which part of the fuel system may have been involved? [ ] Fuel tank [ ] Fuel lines [ ] Engine compartment (specify component if known) [ ] Unknown

Describe any additional rollover or fire information here:

SPECIAL CRASH INVESTIGATION ADDENDUM: DRIVER INFORMATION	
Do you recall the type of development in the area of the crash?	[ ] Residential [ ] Commercial [ ] Industrial [ ] Agricultural [X] Undeveloped [ ] School [ ] Other: _____
What were the weather conditions at the time of the crash?	[ ] Clear (no clouds, no precipitation) [ ] Cloudy (partially cloudy, no precipitation) [ ] Overcast (full cloud cover, no precipitation) [ ] Precipitating [ ] Unknown PAR
What was the type of precipitation?	[ ] No precipitation [ ] Unknown [ ] Raining [ ] Freezing rain [ ] Sleeting [ ] Snowing PAR [ ] Hailing
What was the condition of the road surface?	[ ] Dry [ ] Wet [ ] Snowy, slushy [ ] Icy PAR [ ] Other (e.g., sand, dirt, oil on surface, etc.) [ ] Unknown
How would you describe the amount of traffic at the time of the crash?	[ ] Heavy [ ] Moderate [ ] Light [ ] No other traffic present
What is your occupation?	[ ] Professional [ ] Technical [ ] Government official [ ] Management [ ] Proprietors [ ] Sales [ ] Clerical [X] Craftsman and foreman Superintendent [ ] Service worker [ ] Student [ ] Farmers and farm-managers @ Weddle [ ] Farm labors and foreman Brother [ ] Private household worker Construction. [ ] Housewife [ ] Other: Farmed on the side
How long have you driven this vehicle?	Years: _____ Months: 2-3 months
How many miles do you think that you have driven it in the last 12-month period?	Miles: Unknown Wife (RF occupant) drove it most of the time
How often do you drive this particular roadway?	[X] Daily [ ] Twice weekly [ ] Once weekly [ ] Twice monthly [ ] Once monthly [ ] Very infrequently [ ] First time on road
Where were you coming from just prior to the crash?	[X] Home [ ] Work [ ] School [ ] Shopping [ ] Social/recreational [ ] Restaurant [ ] Personal business [ ] Other: _____
Where were you intending to go when the crash occurred?	[ ] Home [ ] Work [ ] School [ ] Shopping According to other sources [ ] Social/recreational [X] Restaurant [ ] Personal business [ ] Other: _____

ADDITIONAL VEHICLE INFORMATION

YEAR, MAKE AND MODEL?	Year: 19 9 5 Make: Isuzu Model: Trooper
PREVIOUS OR POST-CRASH DAMAGE?	[X] No only had vehicle a month and one-half [ ] Yes - describe: [ ] Unknown
DOORS OR HATCH OPEN DURING THE CRASH?	[ ] No VI [ ] Yes [ ] LF [ ] RF [ ] LR [ ] RR [ ] HATCH [ ] OTHER _____ [ ] Unknown
WINDOWS BREAK DURING THE CRASH?	[ ] No Check all that apply [ ] Yes [ ] WS [ ] LF [ ] RF [ ] LR [ ] RR [ ] BL [ ] Roof [ ] Other [ ] Unknown VI
WINDOW PRECRASH STATUS	Unknown [ ] WS [ ] LF [ ] RF [ ] LR [ ] RR [ ] BL [ ] Roof [ ] Other "O" = open "C" = Closed "P" = partially open "U" = Unknown
GLOVE COMPARTMENT DOOR OPEN DURING THE CRASH?	[ ] No [ ] Yes - describe: VI [ ] Unknown
CARGO IN THE VEHICLE?	[X] No Invehicle [ ] Unknown [ ] Yes - describe: 30 minutes prior to crash Approximate weight - _____ pounds
VEHICLE MILEAGE	VI miles [ ] Unknown
IF VEHICLE HAS NOT BEEN INSPECTED	Current location of the vehicle: Not Applicable Contact person:

Detail any notes, questions to ask interviewee (i.e., rescue personnel damage to vehicle) or directions to vehicle location:

OCCUPANT DATA QUESTIONS

HOW MANY PEOPLE WERE IN THE VEHICLE AT THE TIME OF THE CRASH? 2

	DRIVER	OCCUPANT # 2	OCCUPANT # ___
SEATING POSITION? Front Left (FL) Second Left (2L) Front Middle (FM) Second Middle (2M) Front Right (FR) Second Right (2R) Third Left (3L) Other (SPECIFY in block) Third Middle (3M) Third Right (3R)	FRONT LEFT	FR	
SEX, HEIGHT, WEIGHT, AND AGE? **CIRCLE DRIVER'S RACE:** White Black American Indian Eskimo or Aleut Asian or Pacific Islander Other (specify): Unknown	[X] M [ ] F - Not pregnant [ ] F - Pregnant - # of months ___ [ ] F - Unk. if pregnant HEIGHT: ___ WEIGHT: ___ AGE: ___ DRIVER OF HISPANIC ORIGIN? [ ] Y [X] N [ ] U	[ ] M [X] F - Not pregnant [ ] F - Pregnant - # of months ___ [ ] F - Unk. if pregnant HEIGHT: ___ WEIGHT: ___ AGE: ___	[ ] M [ ] F - Not pregnant [ ] F - Pregnant - # of months ___ [ ] F - Unk. if pregnant HEIGHT: ___ WEIGHT: ___ AGE: ___
OCCUPANT POSTURE A) Kneeling or standing on seat B) Lying on or across seat C) Kneeling, standing or sitting in front of seat D) Sitting sideways, turned to side or back E) Sitting on console F) Lying back in reclined position G) Other (specify) H Unknown	[ ] Leaning to left [ ] Leaning to right [ ] Sitting upright [X] Unknown Indicate all letters that apply and describe if other than above	[ ] Leaning to left [ ] Leaning to right [ ] Sitting upright [X] Unknown Indicate all letters that apply and describe if other than above	[ ] Leaning to left [ ] Leaning to right [ ] Sitting upright [ ] Unknown Indicate all letters that apply and describe if other than above
FEET AND HANDS/ARMS LOCATION JUST PRIOR TO IMPACT **FEET** A) On floor or foot controls B) One or both on dash C) One or both on seat D) Other (specify) E) Unknown **HANDS / ARMS** F) Both hands on steering wheel G) One on wheel, other hand resting or adjusting a control (specify hand on wheel and control involved) H) Dialing a cellular phone (specify location and type of phone) I) Holding a cellular phone (specify location and type of phone) J) Bracing with one or both hands K) On lap L) One or both out of window (specify) M) Other (specify) N) Unknown	Indicate all letters that apply and further describe as needed Unknown	Indicate all letters that apply and further describe as needed	Indicate all letters that apply and further describe as needed

OCCUPANT DATA CONTINUED ON NEXT PAGE

OCCUPANT DATA QUESTIONS (continued)

	DRIVER	OCCUPANT # 2	OCCUPANT # ___
BACK UP AGAINST THE SEAT BACK?	[ ] No (describe) [ ] Yes [X] Unknown	[ ] No (describe) [ ] Yes [X] Unknown	[ ] No (describe) [ ] Yes [ ] Unknown
ADJUSTABLE SEAT *TRACK*, IF "YES" WHERE WAS THE TRACK PRIOR TO IMPACT?	[ ] Not adjustabie [ ] Seat all the way forward [ ] Between forward and middle [ ] At middle position [X] Between middle and rear position Most likely [ ] Seat all the way rearward [ ] Unknown	[ ] Not adjustable Most [X] Seat all the way forward [X] Between forward and middle likely [ ] At middle position [X] Between middle and rear position [ ] Seat all the way rearward [ ] Unknown	[ ] Not adjustable [ ] Seat all the way forward [ ] Between forward and middle [ ] At middle position [ ] Between middle and rear position [ ] Seat all the way rearward [ ] Unknown
ADJUSTABLE SEAT *BACK*, IF "YES" WHERE WAS THE *BACK* PRE AND POST IMPACT	PRE POST [ ] [ ] Not adjustable [ ] [ ] Completely upright [ ] [ ] Slightly reclined [ ] [ ] Completely reclined [ ] Slightly forward of upright [ ] Completely forward [X] [X] Unknown	PRE POST [ ] [ ] Not adjustable [ ] [ ] Completely upright [ ] [ ] Slightly reclined [ ] [ ] Completely reclined [ ] Slightly forward of upright [ ] Completely forward [X] [X] Unknown	PRE POST [ ] [ ] Not adjustable [ ] [ ] Completely upright [ ] [ ] Slightly reclined [ ] [ ] Completely reclined [ ] Slightly forward of upright [ ] Completely forward [ ] [ ] Unknown

TILT STEERING COLUMN ADJUSTMENT PRIOR TO IMPACT
[ ] Not adjustable [ ] Full up [ ] Between full up and center
[ ] Center [ ] Between center and full down
[ ] Full down [X] Unknown

TELESCOPING STEERING COLUMN PRIOR TO IMPACT
[ ] Not adjustable [ ] Full back [ ] Between full back and midpoint
[ ] Midpoint [ ] Between midpoint and full forward
[ ] Full forward [X] Unknown

Did this vehicle have a cellular phone in it during the crash?
[X] No
[ ] Yes - describe type: _____
(e.g., portable, mounted in vehicle, flip phone, etc.)
[ ] Unknown

(Note to researcher: try to determine any driver distractions without implying fault)

Was the driver doing any of the following? **(check all that apply - and specify)**

[ ] Talking to or listening to another occupant (specify):
[ ] Was there a moving object in vehicle (specify):
[ ] Talking or listening on a cellular phone (specify):
[ ] Dialing a cellular phone (specify):
[ ] Adjusting climate control (specify):
[ ] Adjusting radio, CD or cassette player (specify): Unknown
[ ] Using other device or object in vehicle (specify):
[ ] Sleepy / asleep (specify):
[ ] Distracted by outside person, object, or event (specify):
[ ] Eating or drinking (specify):
[ ] Smoking related (specify):
[ ] Other (specify):
[ ] Unknown

RESTRAINT INFORMATION

	DRIVER	OCCUPANT # 5	OCCUPANT # ___
TYPE OF SEAT BELT AVAILABLE NOTE: If a belt is not available for a seat position -- describe reason	[ ] Unknown [ ] Lap belt [ ] Shoulder belt [ ] Lap & Shoulder [ ] Not available * * Describe: VI	[ ] Unknown [ ] Lap belt [ ] Shoulder belt [ ] Lap & Shoulder [ ] Not available * * Describe: VI	[ ] Unknown [ ] Lap belt [ ] Shoulder belt [ ] Lap & Shoulder [ ] Not available * * Describe:
DO BELTS MOVE ALONG A MOTORIZED TRACK FOR THIS SEAT? (i.e., 2-point automatic belt)	[ ] Unknown [ ] No [ ] Yes *	[ ] Unknown [ ] No [ ] Yes *	[ ] Unknown [ ] No [ ] Yes *
IF "YES", WERE THEY WORKING PROPERLY?	[ ] Yes [ ] No (describe)	[ ] Yes [ ] No (describe)	[ ] Yes [ ] No (describe)
ARE ANY BELTS ATTACHED TO THE DOOR? (i.e., 3-point automatic belt)	[ ] Unknown [ ] No [ ] Yes *	[ ] Unknown [ ] No [ ] Yes *	[ ] Unknown [ ] No [ ] Yes *
IF "YES", DOES IT CROSS:	___ Chest ___ Lap ___ Both	___ Chest ___ Lap ___ Both	___ Chest ___ Lap ___ Both
OCCUPANT WEARING ANY SEATBELT?	[ ] No PAR [ ] Yes [ ] Unknown	[ ] No PAR [ ] Yes [ ] Unknown	[ ] No [ ] Yes [ ] Unknown
SKIP THE FOLLOWING IF NO SEAT BELT WAS WORN			
TYPE OF BELT WORN?	[ ] Lap belt [ ] Shoulder belt [ ] Lap & Shoulder [X] Unknown	[ ] Lap belt [ ] Shoulder belt [ ] Lap & Shoulder [X] Unknown	[ ] Lap belt [ ] Shoulder belt [ ] Lap & Shoulder [ ] Unknown
LAP BELT SITUATED?	[ ] Low on lap [ ] Across stomach [ ] Other (specify): _____ _____ [X] Unknown	[ ] Low on lap [ ] Across stomach [ ] Other (specify): _____ _____ [X] Unknown	[ ] Low on lap [ ] Across stomach [ ] Other (specify): _____ _____ [ ] Unknown
SHOULDER BELT SITUATED?	[ ] Over shoulder [ ] Under the arm [ ] Behind back [ ] Behind seat [ ] Other (specify): _____ _____ [X] Unknown	[ ] Over shoulder [ ] Under the arm [ ] Behind back [ ] Behind seat [ ] Other (specify): _____ _____ [X] Unknown	[ ] Over shoulder [ ] Under the arm [ ] Behind back [ ] Behind seat [ ] Other (specify): _____ _____ [ ] Unknown

Describe any breaks, tears, or failures to any of the seat belts:

EJECTION, ENTRAPMENT, MOBILITY INFORMATION

	DRIVER	OCCUPANT # 2	OCCUPANT # ___
ANY PART OF BODY THROWN OUTSIDE THE VEHICLE DURING THE CRASH?	[X] No [ ] Yes * [ ] Unknown * If "Yes" - what part(s) were ejected, and what area of the vehicle was involved. PAR	[X] No [ ] Yes * [ ] Unknown * If "Yes" - what part(s) were ejected, and what area of the vehicle was involved. PAR	[ ] No [ ] Yes * [ ] Unknown * If "Yes" - what part(s) were ejected, and what area of the vehicle was involved.
ANYONE PINNED IN THE VEHICLE?	[ ] No [X] Yes ✓ physically pinned ___ jammed doors ___ fire, etc. [X] Unknown Father Detail any entrapment Per EMS record	[ ] No [X] Yes ✓ physically pinned ___ jammed doors ___ fire, etc. [X] Unknown Father-in-law Detail any entrapment Per EMS record	[ ] No [ ] Yes ___ physically pinned ___ jammed doors ___ fire, etc. [ ] Unknown Detail any entrapment
Per PAR and EMS records **HOW DID OCCUPANT(S) EXIT THE VEHICLE?**	[X] Fatal before removed [ ] Removed while unconscious, or not oriented to time or place [ ] Removed due to perceived serious injuries [ ] Exited with some assistance [ ] Exited under own power [ ] Fully ejected [ ] Unknown	[X] Fatal before removed [ ] Removed while unconscious, or not oriented to time or place [ ] Removed due to perceived serious injuries [ ] Exited with some assistance [ ] Exited under own power [ ] Fully ejected [ ] Unknown	[ ] Fatal before removed [ ] Removed while unconscious, or not oriented to time or place [ ] Removed due to perceived serious injuries [ ] Exited with some assistance [ ] Exited under own power [ ] Fully ejected [ ] Unknown

Further describe any ejection, entrapment, or mobility information here:

AIR BAG INFORMATION

WAS THIS VEHICLE EVER EQUIPPED WITH AN AIR BAG?

☒ YES (IF "YES" COMPLETE THIS SECTION)
☐ NO ☐ UNKNOWN (IF "NO" OR "UNKNOWN" SKIP THIS SECTION)

	DRIVER SIDE FRONTAL	PASSENGER SIDE FRONTAL OCCUPANT # ___	"OTHER" AIR BAG SPECIFY: ___ OCCUPANT # ___
VEHICLE BEEN IN ANY PREVIOUS CRASHES? ☒ NO ☐ YES - continue to right ☐ UNKNOWN - go to box below	☐ Prior crash without deployment ☐ One prior crash with deployment ☐ >1, with at least one deployment ☐ Previous accident(s) unknown if deployed IF PRIOR DEPLOYMENT ☐ CHECK IF NOT REINSTALLED	☐ Prior crash without deployment ☐ One prior crash with deployment ☐ >1, with at least one deployment ☐ Previous accident(s) unknown if deployed IF PRIOR DEPLOYMENT ☐ CHECK IF NOT REINSTALLED	☐ Prior crash without deployment ☐ One prior crash with deployment ☐ >1, with at least one deployment ☐ Previous accident(s) unknown if deployed IF PRIOR DEPLOYMENT ☐ CHECK IF NOT REINSTALLED
TYPE OF AIR BAG?	☒ Original equipment ☐ Retrofitted ☐ Replacement ☐ Unknown	☒ Original equipment ☐ Retrofitted ☐ Replacement ☐ Unknown	☐ Original equipment ☐ Retrofitted ☐ Replacement ☐ Unknown
PRIOR SERVICE ON THE AIR BAG SYSTEM?	☒ No ☐ Unknown ☐ Yes - Specify:	☒ No ☐ Unknown ☐ Yes - Specify:	☐ No ☐ Unknown ☐ Yes - Specify:
DID AIR BAG INFLATE DURING THIS CRASH?	☒ Yes ☐ Unknown ☐ No If "NO" was the wiring disconnected prior to the crash? ☐ Yes ☐ No ☐ Unk	☒ Yes ☐ Unknown ☐ No If "NO" was the wiring disconnected prior to the crash? ☐ Yes ☐ No ☐ Unk	☐ Yes ☐ Unknown ☐ No If "NO" was the wiring disconnected prior to the crash? ☐ Yes ☐ No ☐ Unk
WAS THIS PERSON WEARING ANY TYPE OF EYE-WEAR (EYE/ SUNGLASSES OR CONTACT LENSES) ANY JEWELRY, OR HAVE ANY OBJECTS IN MOUTH OR HAND?	☒ No ☐ Unknown ☐ Yes - Specify:	☒ No ☐ Unknown ☐ Yes - Specify: Most likely	☐ No ☐ Unknown ☐ Yes - Specify:
WAS THE AIR BAG IN THIS POSITION CONTACTED BY ANOTHER OCCUPANT?	☐ No ☒ Unknown ☐ Yes - Specify:	☐ No ☒ Unknown ☐ Yes - Specify:	☐ No ☐ Unknown ☐ Yes - Specify:

Describe any additional information here:

CHILD SAFETY SEAT INFORMATION

WAS THERE A PERSON IN A CHILD SAFETY SEAT IN THIS VEHICLE?

[ ] YES (IF "YES" COMPLETE THIS SECTION)

[X] NO [ ] UNKNOWN (IF "NO" OR "UNKNOWN" SKIP THIS SECTION)

	DRIVER	OCCUPANT # ___	OCCUPANT # ___
MAKE AND MODEL OF THE SAFETY SEAT?			
TYPE OF SEAT?		[ ] Infant [ ] Toddler [ ] Convertible [ ] Booster [ ] Integral [ ] Other Specify: _____ [ ] Unknown	[ ] Infant [ ] Toddler [ ] Convertible [ ] Booster [ ] Integral [ ] Other Specify: _____ [ ] Unknown
DIRECTION FACING PRIOR TO THE CRASH?		[ ] Front [ ] Rearward [ ] Unknown	[ ] Front [ ] Rearward [ ] Unknown
VEHICLE'S SEAT BELT USED TO HOLD THE SEAT IN PLACE?		[ ] No [ ] Yes [ ] Unknown	[ ] No [ ] Yes [ ] Unknown
HOW WAS THE VEHICLE'S SEAT BELT SECURED TO THE CHILD SEAT?		[ ] Looped through designated rear framing studs [ ] Looped through arm rest slots [ ] Belt across safety shield [ ] Looped through rear frame outside the designated framing struts [ ] Other (specify): _____ [ ] Unknown	[ ] Looped through designated rear framing studs [ ] Looped through arm rest slots [ ] Belt across safety shield [ ] Looped through rear frame outside the designated framing struts [ ] Other (specify): _____ [ ] Unknown
WHAT WAS THE CHILD SEAT EQUIPPED WITH AT TIME OF PURCHASE?		[ ] Harness [ ] Shield [ ] Tether [ ] Unknown	[ ] Harness [ ] Shield [ ] Tether [ ] Unknown
ANY OF THESE ADDED AFTER THEY OWNED THE SAFETY SEAT?		[ ] Harness [ ] Shield [ ] Tether [ ] None [ ] Unknown	[ ] Harness [ ] Shield [ ] Tether [ ] None [ ] Unknown

Describe any additional information here:

INJURY INFORMATION

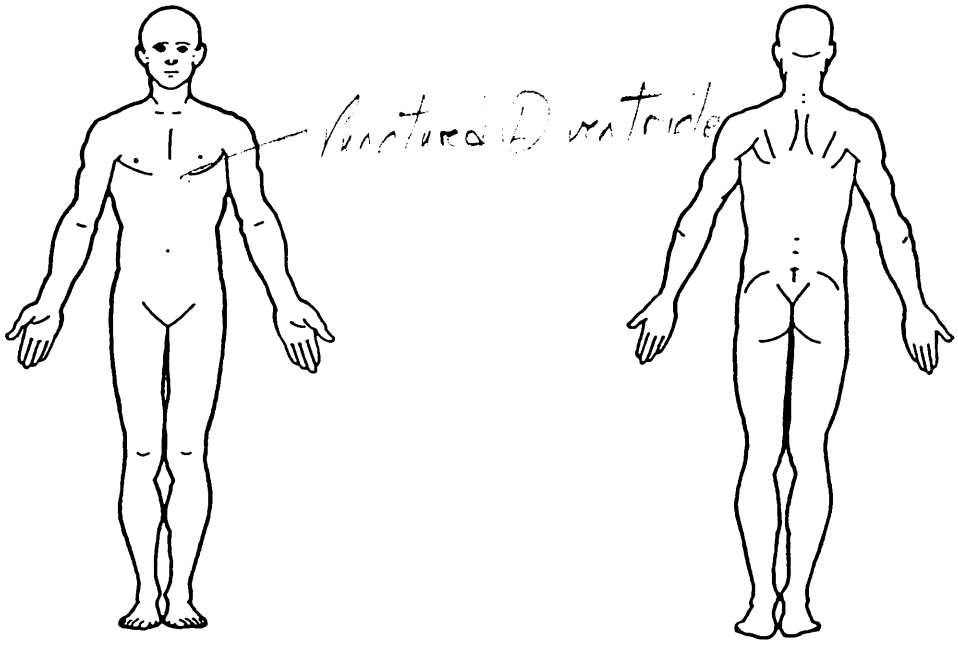
	DRIVER	OCCUPANT # 2	OCCUPANT # ___
WERE YOU INJURED? ▸ *If "YES" go to manikin page and record injuries in detail* ▸ *If "NO" ask next questions*	☐ No ☒ Yes ☐ Unknown	☐ No ☒ Yes ☐ Unknown	☐ No ☐ Yes ☐ Unknown
DID YOU HAVE ANY OF THE FOLLOWING: *(If any injuries are checked, go to the manikin page and record location, lesion, and source)*	☐ Cuts ☐ Abrasions ☐ Bruises ☐ Broken bones ☐ Head, skull, brain ☐ Internal injury ☐ Sprains, strains ☐ Other - specify on manikin	☐ Cuts ☐ Abrasions ☐ Bruises ☐ Broken bones ☐ Head, skull, brain ☐ Internal injury ☐ Sprains, strains ☐ Other - specify on manikin	☐ Cuts ☐ Abrasions ☐ Bruises ☐ Broken bones ☐ Head, skull, brain ☐ Internal injury ☐ Sprains, strains ☐ Other - specify on manikin
TRANSPORTED DIRECTLY FROM ACCIDENT SCENE FOR TREATMENT?	☐ No ☒ Yes ☐ Unknown	☒ No ☐ Yes ☐ Unknown	☐ No ☐ Yes ☐ Unknown
RECEIVE ANY MEDICAL TREATMENT? Never received (check all that apply) any ambulance or hospital bills	☐ Hospital ☐ Medical clinic ☐ Paramedics at scene ☐ Doctor's office ☐ Treated by self ☒ Unknown	☐ Hospital ☐ Medical clinic ☐ Paramedics at scene ☐ Doctor's office ☐ Treated by self ☐ Unknown	☐ Hospital ☐ Medical clinic ☐ Paramedics at scene ☐ Doctor's office ☐ Treated by self ☐ Unknown
HOSPITALIZED?	☐ No ☐ Yes - # of days ___ ☐ Unknown	☒ No ☐ Yes - # of days ___ ☐ Unknown	☐ No ☐ Yes - # of days ___ ☐ Unknown
TREATED AND RELEASED FROM THE EMERGENCY ROOM?	☐ No ☐ Yes ☒ Unknown	☒ No ☐ Yes ☐ Unknown	☐ No ☐ Yes ☐ Unknown
NAME OF MEDICAL TREATMENT FACILITY?			
RECEIVE ANY FOLLOW-UP TREATMENT?	☒ No ☐ Yes - describe any additional injuries diagnosed: ___ ☐ Unknown	☒ No ☐ Yes - describe any additional injuries diagnosed: ___ ☐ Unknown	☐ No ☐ Yes - describe any additional injuries diagnosed: ___ ☐ Unknown
LOST ANY DAYS FROM WORK OR SCHOOL (COLLEGE) DUE TO THE CRASH?	☐ No FATAL ☐ Not working prior to crash ☐ Yes - # of days ___ ☐ Unknown	☐ No FATAL ☐ Not working prior to crash ☐ Yes - # of days ___ ☐ Unknown	☐ No ☐ Not working prior to crash ☐ Yes - # of days ___ ☐ Unknown
IF REQUIRED: **WILL YOU SIGN A MEDICAL RELEASE?** * *If not an in-person interview, make appointment to have release signed*	☐ No ☐ Yes* ☐ Unknown DATE: ___ TIME: ___ PLACE: ___	☐ No ☐ Yes* ☐ Unknown DATE: ___ TIME: ___ PLACE: ___	☐ No ☐ Yes* ☐ Unknown DATE: ___ TIME: ___ PLACE: ___

PSU Number 10 Case Number–Stratum 9616 Vehicle Number 01 Occupant Number 01

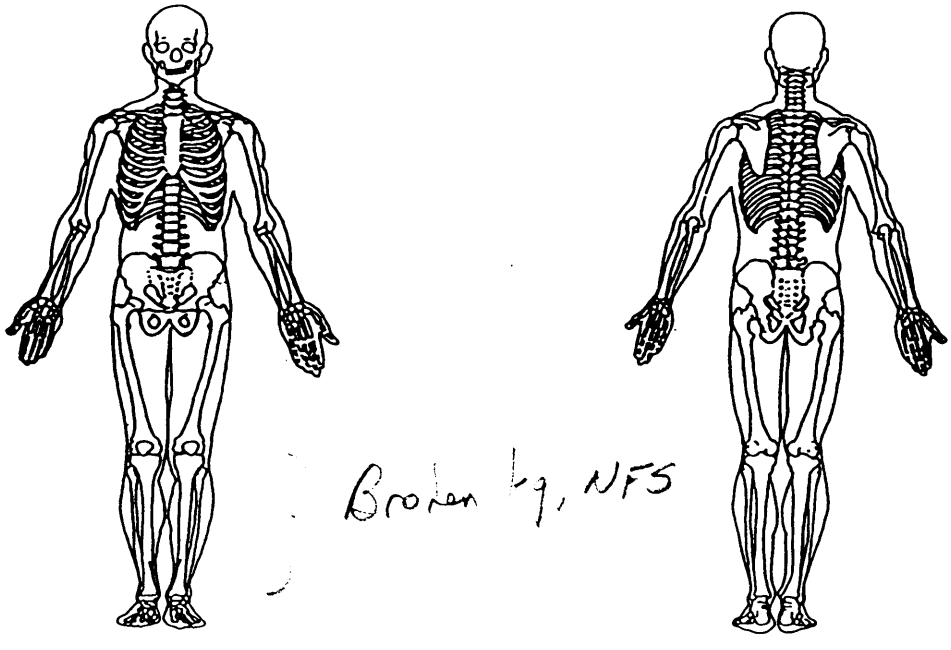
INJURY DATA FROM INTERVIEWEE(S)

Indicate the *Location, Lesion, Detail, and Source* of all injuries. Specify interviewee(s): FATHER

SOFT TISSUE/INTERNAL INJURIES



SKELETAL INJURIES



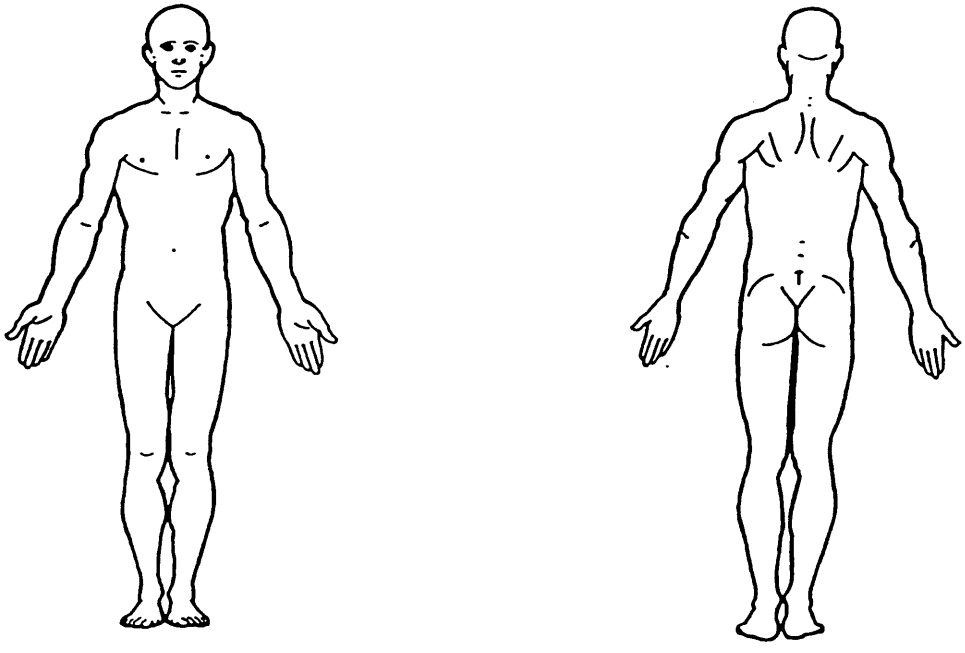
The space provided on the back of this page may be used to further detail injuries noted by the interviewee(s).

PSU Number 10 Case Number—Stratum 9616 Vehicle Number 01 Occupant Number 02

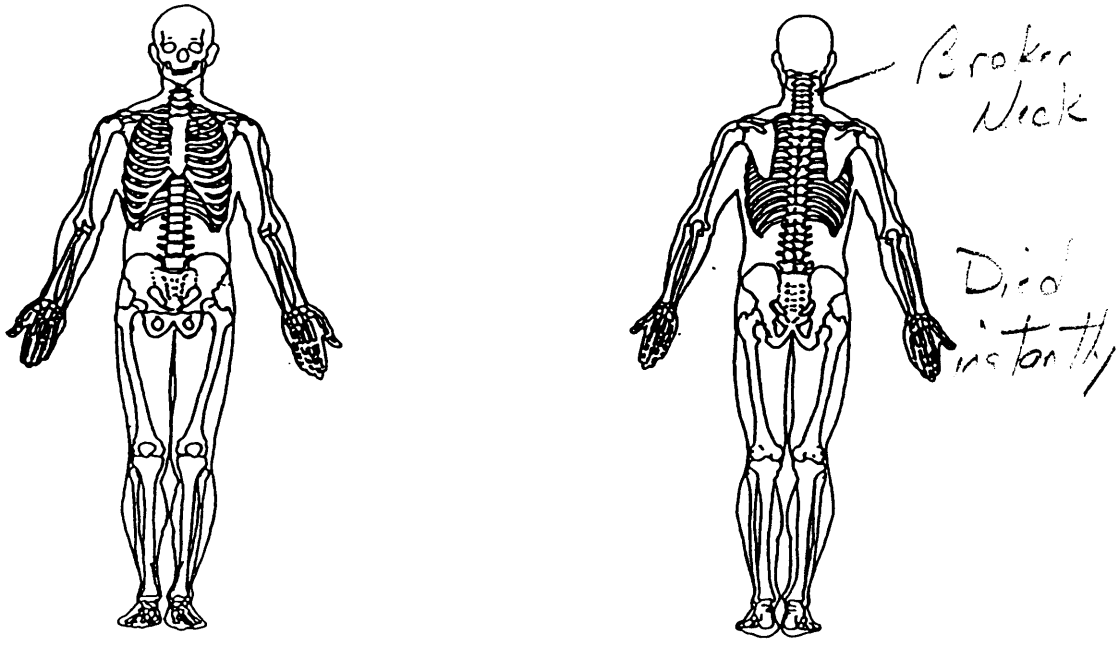
INJURY DATA FROM INTERVIEWEE(S)

Indicate the *Location, Lesion, Detail, and Source* of all injuries. Specify interviewee(s): FATHER-IN-LAW

SOFT TISSUE/INTERNAL INJURIES



SKELETAL INJURIES



The space provided on the back of this page may be used to further detail injuries noted by the interviewee(s).

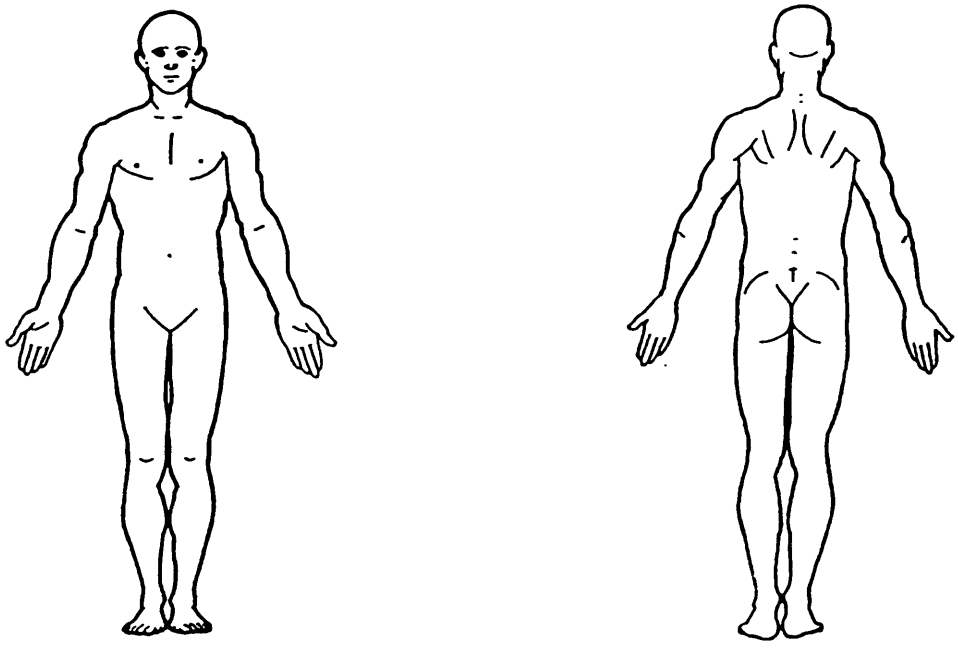
PSU Number 10 Case Number—Stratum 96 ____ Vehicle Number ____ Occupant Number ____

INJURY DATA FROM INTERVIEWEE(S)

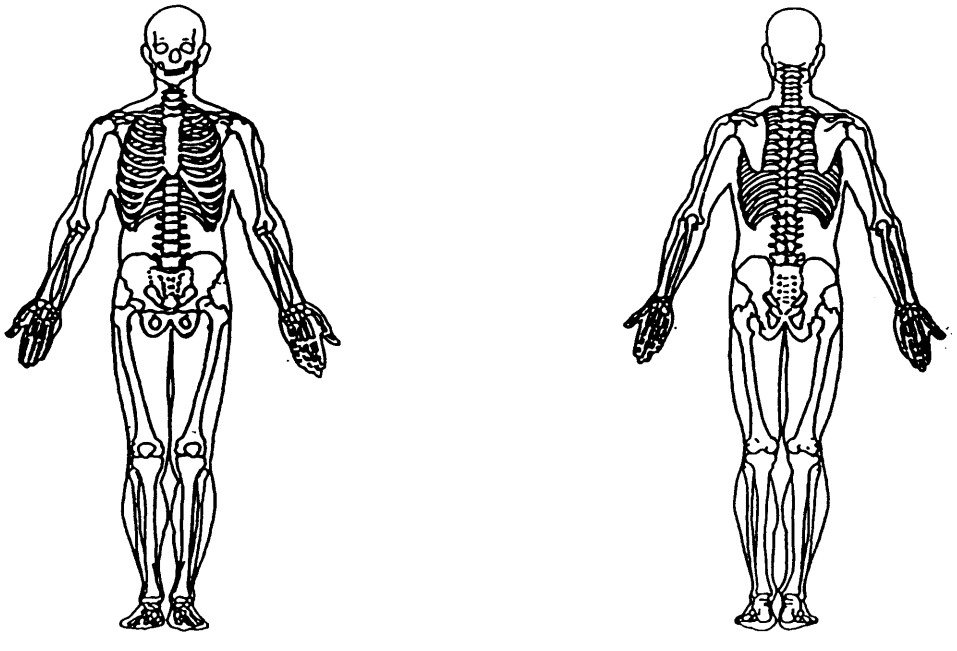
Indicate the *Location, Lesion, Detail, and Source* of all injuries. Specify interviewee(s): _____

_____

SOFT TISSUE/INTERNAL INJURIES



SKELETAL INJURIES



The space provided on the back of this page may be used to further detail injuries noted by the interviewee(s).

NASS CDS OCCUPANT ASSESSMENT FORM: CASE VEHICLE DRIVER

U.S. Department of Transportation
National Highway Traffic Safety Administration

OCCUPANT ASSESSMENT FORM

Form Approved
O.M.B. No. 2127-0021

NATIONAL ACCIDENT SAMPLING SYSTEM
CRASHWORTHINESS DATA SYSTEM

1. Primary Sampling Unit Number: 10
2. Case Number - Stratum: 9616
3. Vehicle Number: 01
4. Occupant Number: 01

OCCUPANT'S CHARACTERISTICS

5. Occupant's Age: 39
Code actual age at time of accident.
(00) Less than one year old (specify by month): _____
(97) 97 years and older
(99) Unknown

6. Occupant's Sex: 1
(1) Male
(2) Female-not reported pregnant
(3) Female-pregnant-1st trimester(1st-3rd month)
(4) Female-pregnant-2nd trimester(4th-6th month)
(5) Female-pregnant-3rd trimester(7th-9th month)
(6) Female-pregnant-term unknown
(9) Unknown

7. Occupant's Height: 188
Code actual height to the nearest centimeter.
(999) Unknown
74 inches X 2.54 = 188.0 centimeters

8. Occupant's Weight: 075
Code actual weight to the nearest kilogram.
(999) Unknown
166 pounds X .4536 = 75.3 kilograms

9. Occupant's Role: 1
(1) Driver
(2) Passenger
(9) Unknown

OCCUPANT'S SEATING

10. Occupant's Seat Position: 11
Front Seat
(11) Left side
(12) Middle
(13) Right side
(14) Other (specify): _____
(15) On or in the lap of another occupant

Second Seat
(21) Left side
(22) Middle
(23) Right side
(24) Other (specify): _____
(25) On or in the lap of another occupant

Third Seat
(31) Left side
(32) Middle
(33) Right side
(34) Other (specify): _____
(35) On or in the lap of another occupant

Fourth Seat
(41) Left side
(42) Middle
(43) Right side
(44) Other (specify): _____
(45) On or in the lap of another occupant

(97) In or on unenclosed area
(98) Other seat (specify): _____
(99) Unknown

11. Occupant's Posture: 9
(0) Normal posture

Abnormal posture
(1) Kneeling or standing on seat
(2) Lying on or across seat
(3) Kneeling, standing or sitting in front of seat
(4) Sitting sideways or turned to talk with another occupant or to look out a rear window
(5) Sitting on a console
(6) Lying back in a reclined seat position
(7) Bracing with feet or hands on a surface in front of seat
(8) Other abnormal posture (specify): _____
(9) Unknown

EJECTION/ENTRAPMENT

12. Ejection 0
    (0) No ejection
    (1) Complete ejection
    (2) Partial ejection
    (3) Ejection, unknown degree
    (9) Unknown

13. Ejection Area 0
    (0) No ejection
    (1) Windshield
    (2) Left front
    (3) Right front
    (4) Left rear
    (5) Right rear
    (6) Rear
    (7) Roof
    (8) Other area (e.g., back of pickup, etc.) (specify):_____
    (9) Unknown

14. Ejection Medium 0
    (0) No ejection
    (1) Door/hatch/tailgate
    (2) Nonfixed roof structure
    (3) Fixed glazing
    (4) Nonfixed glazing (specify):
    _____
    (5) Integral structure
    (8) Other medium (specify):
    _____
    (9) Unknown

15. Medium Status (Immediately Prior To Impact) 0
    (0) No ejection
    (1) Open
    (2) Closed
    (3) Integral structure
    (9) Unknown

16. Entrapment 0
    (0) Not entrapped/exit not inhibited
    (1) Entrapped/pinned - mechanically restrained
    (2) Could not exit vehicle due to jammed doors, fire, etc.
    (specify):_____
    _____
    (9) Unknown

17. Occupant Mobility 0
    (0) Occupant fatal before removed from vehicle
    (1) Removed from vehicle while unconscious or not oriented to time or place
    (2) Removed from vehicle due to perceived serious injuries
    (3) Exited vehicle with some assistance
    (4) Exited vehicle under own power
    (5) Occupant fully ejected
    (8) Removed from vehicle for other reasons (specify): _____
    (9) Unknown

BELT SYSTEM FUNCTION

18. Manual (Active) Belt System Availability 4
(0) None available
(1) Belt removed/destroyed
(2) Shoulder belt
(3) Lap belt
(4) Lap and shoulder belt
(5) Belt available—type unknown

Integral Belt Partially Destroyed
(6) Shoulder belt (lap belt destroyed/removed)
(7) Lap belt (shoulder belt destroyed/removed)
(8) Other belt (specify):

(9) Unknown

19. Manual (Active) Belt System Use 00
(00) None used, not available, or belt removed/destroyed
(01) Inoperative (specify):

(02) Shoulder belt
(03) Lap belt
(04) Lap and shoulder belt
(05) Belt used—type unknown
(08) Other belt used (specify):

(12) Shoulder belt used with child safety seat
(13) Lap belt used with child safety seat
(14) Lap and shoulder belt used with child safety seat
(15) Belt used with child safety seat—type unknown
(18) Other belt used with child safety seat (specify):
(99) Unknown if belt used

20. Proper Use of Manual (Active) Belts 0
(0) None used or not available
(1) Belt used properly
(2) Belt used properly with child safety seat

Belt Used Improperly
(3) Shoulder belt worn under arm
(4) Shoulder belt worn behind back or seat
(5) Belt worn around more than one person
(6) Lap belt worn on abdomen
(7) Lap belt or lap and shoulder belt used improperly with child safety seat (specify):

(8) Other improper use of manual belt system (specify):

(9) Unknown

21. Manual (Active) Belt Failure Modes During Accident 0
(0) No manual belt used or not available
(1) No manual belt failure(s)
(2) Torn webbing (stretched webbing not included)
(3) Broken buckle or latchplate
(4) Upper anchorage separated
(5) Other anchorage separated (specify):

(6) Broken retractor
(7) Combination of above (specify):

(8) Other manual belt failure (specify):

(9) Unknown

22. Manual Shoulder Belt Upper Anchorage Adjustment 1
(0) No manual shoulder belt
(1) No upper anchorage adjustment for manual shoulder belt

Adjustable shoulder Belt Upper Anchorage
(2) In full up position
(3) In mid position
(4) In full down position
(5) Position unknown
(9) Unknown if position has adjustable upper anchorage adjustment

23. Automatic (Passive) Belt System Availability/ Function 0
(0) Not equipped/not available
(1) 2 point automatic belts
(2) 3 point automatic belts
(3) Automatic belts - type unknown

Non-functional
(4) Automatic belts destroyed or rendered inoperative
(9) Unknown

24. Automatic (Passive) Belt System Use 0
(0) Not equipped/not available/destroyed or rendered inoperative
(1) Automatic belt in use
(2) Automatic belt not in use (manually disconnected, motorized track inoperative) (specify):
(3) Automatic belt use unknown
(9) Unknown

25. Automatic (Passive) Belt System Type 0
(0) Not equipped/not available
(1) Non-motorized system
(2) Motorized system
(9) Unknown

26. Proper Use of Automatic (Passive) Belt System 0
(0) Not equipped/not available/not used
(1) Automatic belt used properly
(2) Automatic belt used properly with child safety seat

Automatic Belt Used Improperly
(3) Automatic shoulder belt worn under arm
(4) Automatic shoulder belt worn behind back
(5) Automatic belt worn around more than one person
(6) Lap portion of automatic belt worn on abdomen
(7) Automatic lap and shoulder belt or automatic shoulder belt used improperly with child safety seat (specify):

(8) Other improper use of automatic belt system (specify):
(9) Unknown

27. Automatic (Passive) Belt Failure Modes During Accident 0
(0) Not equipped/not available/not in use
(1) No automatic belt failure(s)
(2) Torn webbing (stretched webbing not included)
(3) Broken buckle or latchplate
(4) Upper anchorage separated
(5) Other anchorage separated (specify):

(6) Broken retractor
(7) Combination of above (specify):
(8) Other automatic belt failure (specify):

(9) Unknown

POLICE REPORTED RESTRAINT USE

28. Police Reported Belt Use: 0
    (0) None used
    (1) Police did not indicate belt use
    (2) Shoulder belt
    (3) Lap belt
    (4) Lap and shoulder belt
    (5) Belt used, type not specified
    (6) Child safety seat
    (7) Automatic belt
    (8) Other type belt, (specify): _____
    (9) Police indicated "unknown"

29. Police Reported Air Bag Availability/Function: 1
    (0) No air bag available
    (1) Police did not indicate air bag availability/function
    (2) Deployed
    (3) Not deployed
    (4) Unknown if deployed
    (9) Police indicated "unknown"

Check the Primary Source Used In Determining Belt Use.

[X] Vehicle inspection
[ ] Official injury data
[ ] Driver/occupant interview
[ ] Other (specify): _____
[ ] Unknown if belt used

AIR BAG SYSTEM FUNCTION

30. Frontal Air Bag System Availability/Function (This Occupant Position): 1
    (0) Not equipped/not available
    (1) Air bag
    Non-functional
    (2) Air bag disconnected (specify): _____
    (3) Air bag not reinstalled
    (9) Unknown

31. Frontal Air Bag System Deployment (This Occupant Position): 1
    (0) Not equipped/not available
    (1) Deployed during accident (as a result of impact)
    (2) Deployed inadvertently just prior to accident
    (3) Deployed, details unknown
    (4) Deployed as a result of a noncollision event during accident sequence (e.g., fire, explosion, electrical)
    (5) Unknown if deployed
    (7) Nondeployed
    (9) Unknown

32. Other Than First Seat Frontal Air Bag Availability/Function (This Occupant Position): 0
    (0) Not equipped/not available
    (1) Air bag
    Non-functional
    (2) Air bag disconnected (specify): _____
    (3) Air bag not reinstalled
    (9) Unknown
    Specify type of "other" air bag present: _____

33. Air Bag(s) Deployment, Other Than First Seat Frontal (This Occupant Position): 0
    (0) Not equipped with an "other" air bag
    (1) Deployed during accident (as a result of impact)
    (2) Deployed inadvertently just prior to accident
    (3) Deployed, details unknown
    (4) Deployed as a result of a noncollision event during accident sequence (e.g., fire, explosion, electrical)
    (5) Unknown if deployed
    (7) Nondeployed
    (9) Unknown

34. Are There Indications of Air Bag System Failure? (This Occupant Position): 1
    (0) Not equipped/not available
    (1) No
    (2) Yes (specify): _____
    (9) Unknown

FIRST SEAT FRONTAL AIR BAG SYSTEM EVALUATION

35. Had Vehicle Been in Previous Accident(s)? 1
(0) Not equipped/not available
(1) No previous accidents

Yes
(2) Previous accident(s) without deployment(s)
(3) One previous accident with deployment
(4) More than one previous accident with at least one deployment
(8) Previous accidents, unknown deployment status
(9) Unknown

36. Type of Air Bag 1
(0) Not equipped/not available
(1) Original manufacturer installed system
(2) Retrofitted air bag
(3) Replacement air bag
(8) Unknown type of air bag
(9) Unknown

37. Had Any Prior Maintenance/Service Been Performed On This Air Bag System? 1
(0) Not equipped/not available
(1) No prior maintenance
(2) Yes, prior maintenance (specify): _____
(9) Unknown

38. Air Bag Deployment Accident Event Sequence Number 01
(00) Not equipped/not available
____ Code the accident event sequence number that initiated the air bag deployment
(96) Deployed, unknown event
(97) Not deployed
(98) Unknown if deployed
(99) Unknown

39. CDC For Air Bag Deployment Impact 1
(0) Not equipped/not available
(1) Highest delta V
(2) Second highest delta V
(3) Other non-coded delta V (specify): _____
(6) Deployed, unknown event
(7) Not deployed
(8) Unknown if deployed
(9) Unknown

40. Longitudinal Component of Delta V For Air Bag Deployment Impact +(-)041
(_000) Not equipped/not available
Code the value of the delta V for the impact that initiated the air bag deployment
(_996) Deployment, unknown longitudinal Delta V
(_997) Not deployed
(_998) Unknown if deployed
(_999) Unknown

41. Did Air Bag Module Cover Flap(s) Open At Designated Tear Points? 2
(0) Not equipped/not available
(1) No
(2) Yes
(3) Deployed, unknown if flap(s) opened at designated tear points
(7) Not deployed
(8) Unknown if deployed
(9) Unknown

42. Were Air Bag Module Cover Flap(s) Damaged? 1
(0) Not equipped/not available
(1) No
(2) Yes (specify): _____
(3) Deployed, unknown if air bag module cover flap(s) damaged
(7) Not deployed
(8) Unknown if deployed
(9) Unknown

43. Was There Damage To The Air Bag? 01
(00) Not equipped/not available
(01) Not damaged

Yes - Air Bag Damage
(02) Ruptured
(03) Cut
(04) Torn
(05) Holed
(06) Burned
(07) Abraded
(88) Other damage (specify): _____
(95) Damaged, details unknown
(96) Deployed, unknown if damaged
(97) Not deployed
(98) Unknown if deployed
(99) Unknown

FIRST SEAT FRONTAL AIR BAG SYSTEM EVALUATION *continued*

44. Source of Air Bag Damage 01
(00) Not equipped/not available
(01) Not damaged
(02) Object worn by occupant, (specify):
(03) Object carried by occupant, (specify):
(04) Adaptive/assistive controls, (specify):
(05) Fire in vehicle
(06) Thermal burns
(07) Rescue or emergency efforts
(88) Other damage source (specify):
(95) Damaged, unknown source
(96) Deployed, unknown if damaged
(97) Not deployed
(98) Unknown if deployed
(99) Unknown

45. Was The Air Bag Tethered? 2
(0) Not equipped/not available
(1) No
(2) Yes (specify number of tether straps): Two
(3) Deployed, unknown if tethered
(7) Not deployed
(8) Unknown if deployed
(9) Unknown

46. Did The Air Bag Have Vent Ports? 2
(0) Not equipped/not available
(1) No
(2) Yes (specify number of vent ports): Two
(3) Deployed, unknown if vent ports present
(7) Not deployed
(8) Unknown if deployed
(9) Unknown

47. Was the Air Bag in this Occupant's Position Contacted by Another Occupant? 1
(0) Not equipped/not available
(1) No
(2) Yes (specify):
(3) Deployed, unknown if other occupant contact to air bag
(7) Not deployed
(8) Unknown if deployed
(9) Unknown

48. Was This Occupant Wearing Eye-wear? 1
(0) Not air bag equipped/air bag not available
(1) No
(2) Eyeglasses/sunglasses
(3) Contact lenses
(4) Deployed, unknown if eyewear worn
(7) Not deployed
(8) Unknown if deployed
(9) Unknown

HEAD RESTRAINT AND SEAT EVALUATION

49. Head Restraint Type/Damage by Occupant at This Occupant Position 3
(0) No head restraints
(1) Integral—no damage
(2) Integral—damaged during accident
(3) Adjustable—no damage
(4) Adjustable—damaged during accident
(5) Add-on—no damage
(6) Add-on—damaged during accident
(8) Other (specify):
(9) Unknown

50. Seat Type (this Occupant Position) 02
(00) Occupant not seated or no seat
(01) Bucket
(02) Bucket with folding back
(03) Bench
(04) Bench with separate back cushions
(05) Bench with folding back(s)
(06) Split bench with separate back cushions
(07) Split bench with folding back(s)
(08) Pedestal (i.e., column supported)
(09) Box mounted seat (i.e., van type)
(10) Other seat type (specify):
(99) Unknown

51. Seat Orientation (this Occupant Position) 1
(0) Occupant not seated or no seat
(1) Forward facing seat
(2) Rear facing seat
(3) Side facing seat (inward)
(4) Side facing seat (outward)
(8) Other (specify):
(9) Unknown

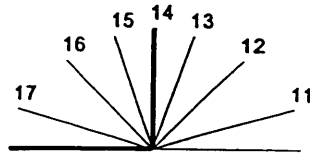
52. Seat Track Adjusted Position Prior To Impact 9
(0) Occupant not seated or no seat
(1) Non-adjustable seat track

Adjustable Seat Track
(2) Seat at forward most track position
(3) Seat between forward most and middle track positions
(4) Seat at middle track position
(5) Seat between middle and rear most track positions — Most Likely per interviewee
(6) Seat at rear most track position
(9) Unknown

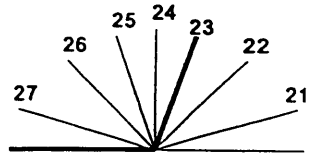
HEAD RESTRAINT AND SEAT EVALUATION *continued*

53. Seat Back Incline Prior and Post Impact 99
    (00) Occupant not seated or no seat
    (01) Not adjustable

    Upright prior to impact
    (11) Moved to completely rearward position
    (12) Moved to rearward midrange position
    (13) Moved to slightly rearward position
    (14) Retained pre-impact position
    (15) Moved to slightly forward position
    (16) Moved to forward midrange position
    (17) Moved to completely forward position

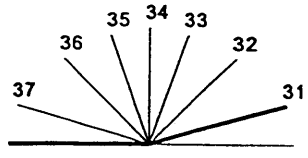


    Slightly reclined prior to impact
    (21) Moved to completely rearward position
    (22) Moved to rearward midrange position
    (23) Retained pre-impact position
    (24) Moved to upright position
    (25) Moved to slightly forward position
    (26) Moved to forward midrange position
    (27) Moved to completely forward position



    Completely reclined prior to impact
    (31) Retained pre-impact position
    (32) Moved to rearward midrange position
    (33) Moved to slightly rearward position
    (34) Moved to upright position
    (35) Moved to slightly forward position
    (36) Moved to forward midrange position
    (37) Moved to completely forward position

    (99) Unknown



54. Seat Performance (this Occupant Position) 1
    (0) Occupant not seated or no seat
    (1) No seat performance failure(s)
    (2) Seat adjusters failed
    (3) Seat back folding locks or "seat back" failed
    (specify):_____
    (4) Seat track/anchors failed
    (5) Deformed by impact of occupant
    (6) Deformed by passenger compartment
    intrusion, (specify):_____
    _____
    (7) Combination of above (specify):
    _____
    (8) Other (specify): _____
    (9) Unknown

CHILD SAFETY SEAT

55. Child Safety Seat Make/Model 0 0 0
(000) No child safety seat
Applicable codes are found in your NASS CDS Data Collection, Coding and Editing
(950) Built-in child safety seat
(997) Other make/model (specify): _____
(998) Unknown make/model
(999) Unknown if child safety seat used

56. Type of Child Safety Seat 0
(0) No child safety seat
(1) Infant seat
(2) Toddler seat
(3) Convertible seat
(4) Booster seat - with shield
(5) Booster seat - without shield
(7) Other type child safety seat (specify): _____
(8) Unknown child safety seat type
(9) Unknown if child safety seat used

57. Child Safety Seat Orientation 0 0
(00) No child safety seat

Designed for Rear Facing for This Age/Weight
(01) Rear facing
(02) Forward facing
(08) Other orientation (specify): _____
(09) Unknown orientation

Designed For Forward Facing for This Age/Weight
(11) Rear facing
(12) Forward facing
(18) Other orientation (specify): _____
(19) Unknown orientation

Unknown Design or Orientation For This Age/Weight, or Unknown Age/Weight
(21) Rear facing
(22) Forward facing
(28) Other orientation (specify): _____
(29) Unknown orientation

(99) Unknown if child safety seat used

58. Child Safety Seat Harness Usage 0 0

59. Child Safety Seat Shield Usage 0 0

60. Child Safety Seat Tether Usage 0 0

Note: Options below applicable to Variables OA58-OA60.
(00) No child safety seat

Not Designed With Harness/Shield/Tether
(01) After market harness/shield/tether added, not used
(02) After market harness/shield/tether used
(03) Child safety seat used, but no after market harness/shield/tether added
(09) Unknown if harness/shield/tether added or used

Designed With Harness/Shield/Tether
(11) Harness/shield/tether not used
(12) Harness/shield/tether used
(19) Unknown if harness/shield/tether used

Unknown If Designed With Harness/Shield/Tether
(21) Harness/shield/tether not used
(22) Harness/shield/tether used
(29) Unknown if harness/shield/tether used

(99) Unknown if child safety seat used

INJURY CONSEQUENCES

61. Injury Severity (Police Rating) 4

(0) O - No injury
(1) C - Possible injury
(2) B - Nonincapacitating injury
(3) A - Incapacitating injury
(4) K - Killed
(5) U - Injury, severity unknown
(6) Died prior to accident
(9) Unknown

62. Treatment - Mortality 1

(0) No treatment
(1) Fatal
(2) Fatal - ruled disease (specify):

_____

Nonfatal
(3) Hospitalization
(4) Transported and released
(5) Treatment at scene - nontransported
(6) Treatment later
(7) Treatment - other (specify):

_____

(8) Transported to a medical facility-unknown if treated
(9) Unknown

63. Type Of Medical Facility (for Initial Treatment) 0

(0) Not treated at a medical facility
(1) Trauma center
(2) Hospital
(3) Medical clinic
(4) Physician's office
(5) Treatment later at medical facility
(8) Other (specify):

_____

(9) Unknown

64. Hospital Stay 00

(00) Not Hospitalized
_____Code the number of days (up through 60) that the occupant stayed in hospital.
(61) 61 days or more
(99) Unknown

65. Working Days Lost 62

_____Code the number of days (up through 60) that the occupant lost from work due to the accident
(00) No working days lost
(61) 61 days or more
(62) Fatally injured
(97) Not working prior to accident
(99) Unknown

STOP WORK HERE

VARIABLES 66-74

TO BE CODED BY THE ZONE CENTER

TO BE CODED BY THE ZONE CENTER

INJURY CONSEQUENCES

66. Time to Death 01
____Code number of hours from time of accident to time of death up through 24 hours. If time of death is greater than 24 hours, code number of days. (Note: 1 day = 31, 2 days = 32, ... n days = 30 +n up through 30 days = 60)
(00) Not fatal
(96) Fatal - ruled disease
(99) Unknown

67. 1st Medically Reported Cause of Death 01

68. 2nd Medically Reported Cause of Death 06

69. 3rd Medically Reported Cause of Death 10
____Code the Occupant Injury from line number(s) for the medically reported injury(s) which reportedly contributed to this occupant's death
(00) Not fatal or no additional causes
(96) Mode of death given but specific injuries are not linked to cause of death. (specify):
_____
(97) Other result (includes fatal ruled disease) (specify):
_____
(99) Unknown

70. Number of Recorded Injuries for This Occupant 24
____Code the actual number of injuries recorded for this occupant.
(00) No recorded injuries
(97) Injured, details unknown
(99) Unknown if injured

TRAUMA DATA

71. Glasgow Coma Scale (GCS) Score (at Medical Facility) 01
(00) Not injured
(01) Injured - not treated at medical facility
(02) No GCS Score at medical facility
(03-15) Code the actual value of the initial GCS Score recorded at medical facility.
(97) Injured, details unknown
(99) Unknown if injured
12 Initially @ Scene → 3

72. Was the Occupant Given Blood? 1
(1) No - blood not given
(2) Yes - blood given
(specify units):_____
(9) Unknown if blood given

73. Arterial Blood Gases (ABG) – HCO_3 01
(00) Not injured
(01) Injured, ABGs not measured or reported
(02-50) Code the actual value of the HCO_3
(96) ABGs reported , HCO_3 unknown
(97) Injured, details unknown
(99) Unknown if injured

BELT USE DETERMINATION

74. Primary Source of Belt Use Determination 1
(0) Not equipped/not available/destroyed or rendered inoperative
(1) Vehicle inspection
(2) Official injury data
(3) Driver/occupant interview
(8) Other (specify):_____
(9) Unknown if belt used

NASS CDS OCCUPANT INJURY FORM:
CASE VEHICLE DRIVER

U.S. Department of Transportation
National Highway Traffic Safety Administration

OCCUPANT INJURY FORM

Form Approved
O.M.B. No. 2127-0021
NATIONAL ACCIDENT SAMPLING SYSTEM
CRASHWORTHINESS DATA SYSTEM

1. Primary Sampling Unit Number	10	3. Vehicle Number	01
2. Case Number - Stratum	9616	4. Occupant Number	01

INJURY DATA

Record below the actual injuries sustained by this occupant that were identified from the official and unofficial data sources. Remember not to double count an injury just because it was identified from two different sources. If greater than ten injuries have been documented, encode the balance on the Occupant Injury Supplement.

	Source of Injury Data	A.I.S. - 90 Body Region	Type of Anatomic Structure	Specific Anatomic Structure	Level of Injury	A.I.S. Severity	Aspect	Injury Source	Injury Source Confidence Level	Direct/ Indirect Injury	Occupant Area Intrusion Number
Laceration (L) Ventricle	1st 1	4	4	10	12	5	4	006	1	1	07
Contusions (L) Ventricle	2nd 1	4	4	10	02	3	4	006	1	1	07
Laceration Pericardial sac	3rd 1	4	4	16	02	2	4	006	1	1	07
Laceration both Lungs	4th 1	4	4	14	50	4	3	006	1	1	07
Contusions both Lungs	5th 1	4	4	14	10	4	3	006	1	1	07
Lacerations Liver	6th 1	5	4	18	24	3	1	004	2	1	07
Laceration Spleen	7th 1	5	4	42	22	2	2	004	2	1	07
Injury (L) Adrenal gland	8th 1	5	4	02	99	1	2	004	2	1	07
Injury LUQ Mesentery	9th 1	5	4	20	99	2	8	004	2	1	07
Fx Ribs (L) 4, 5-6 (R) 4-6	10th 1	4	5	02	40	4	3	006	1	1	07

BEST AVAILABLE

OCCUPANT INJURY DATA

	Source of Injury Data	A.I.S. - 90 Body Region	Type of Anatomic Structure	Specific Anatomic Structure	Level of Injury	A.I.S. Severity	Aspect	Injury Source	Injury Source Confidence Level	Direct/ Indirect Injury	Occupant Area Intrusion Number
Subluxation Atlanto-Occipital 11th	1	6	5	02	08	2	6	205	3	2	98
Abrasions (L) cheek 12th	1	2	9	02	02	1	2	170	1	1	00
Abrasion neck 13th	1	3	9	02	02	1	5	170	1	1	00
Contusions chest wall 14th	1	4	9	04	02	1	9	006	1	1	07
Lacerations both shoulders 15th	1	7	9	06	02	1	3	602	1	3	00
Abrasion (L) wrist 16th	1	7	9	02	02	1	2	170	2	1	00
Lacerations (R) thumb 17th	1	7	9	06	02	1	1	010	2	1	04
Laceration (R) thumb 18th	1	7	9	06	02	1	2	010	2	1	04
Contusion (R) thumb 19th	1	7	9	04	02	1	1	010	2	1	04
Abrasion (R) knee 20th	1	8	9	02	02	1	1	010	2	1	04
Abrasion (R) lower leg 21st	1	8	9	02	02	1	1	007	2	1	07
Contusion lower + (R) knee 22nd	1	8	9	04	02	1	1	010	2	1	04
Contusion (R) calf 23rd	1	8	9	04	02	1	1	007	2	1	07
Abrasions (R) knee 24th	1	8	9	02	02	1	2	010	1	1	04
25th											

OCCUPANT INJURY CLASSIFICATION

Body Region

(1) Head
(2) Face
(3) Neck
(4) Thorax
(5) Abdomen
(6) Spine
(7) Upper Extremity
(8) Lower Extremity
(9) Unspecified

Type of Anatomic Structure

(1) Whole Area
(2) Vessels
(3) Nerves
(4) Organs (includes Muscles/ligaments)
(5) Skeletal (includes joints)
(6) Head - LOC
(9) Skin

Specific Anatomic Structure

Vessels, Nerves, Organs, Bones, Joints are assigned consecutive two digit numbers beginning with 02.

The exceptions to this rule apply to:

Whole Area
(02) Skin - Abrasion
(04) Skin - Contusion
(06) Skin - Laceration
(08) Skin - Avulsion
(10) Amputation
(20) Burn
(30) Crush
(40) Degloving
(50) Injury - NFS
(90) Trauma, other than mechanical

Head - LOC
(02) Length of LOC

(04) Level
(06) of
(08) Consciousness

(10) Concussion

Spine
(02) Cervical
(04) Thoracic
(06) Lumbar

Level of Injury

Specific injuries are assigned consecutive two-digit numbers beginning with 02.

To the extent possible, within the organizational framework of the AIS, 00 is assigned to an injury NFS as to severity or where only one injury is given in the dictionary for that anatomic structure. 99 is assigned to any injury NFS as to lesion or severity.

Abbreviated Injury Scale

(1) Minor Injury
(2) Moderate Injury
(3) Serious Injury
(4) Severe Injury
(5) Critical Injury
(6) Maximum (untreatable)
(7) Injured, unknown severity

Aspect

(1) Right
(2) Left
(3) Bilateral
(4) Central
(5) Anterior
(6) Posterior
(7) Superior
(8) Inferior
(9) Unknown
(0) Whole region

SOURCE OF INJURY DATA

OFFICIAL RECORDS
(1) Autopsy records with or without hospital/medical records
(2) Hospital/medical records other than emergency room (e.g., discharge summary)
(3) Emergency room records only (including associated X-rays or other lab reports)
(4) Private physician, walk-in or emergency clinic

UNOFFICIAL RECORDS
(5) Lay coroner report
(6) E.M.S. personnel
(7) Interviewee
(8) Other source (specify):

(9) Police

INJURY SOURCE CONFIDENCE LEVEL

(1) Certain
(2) Probable
(3) Possible
(9) Unknown

DIRECT/INDIRECT INJURY

(1) Direct contact injury
(2) Indirect contact injury
(3) Noncontact injury
(7) Injured, unknown source

OFFICIAL INJURY DATA — SOFT TISSUE INJURIES

Unrestrained driver

Height: 74 Inches; Weight: 166 Pounds

Indicate the Location, Specific Anatomic Structure, Detail (size, depth, fracture type, head injury clinical signs and neurological deficits), and Source of all injuries indicated by official sources (or from PAR or other unofficial sources if medical records and interviewee data are unavailable.)

AUTOPSY

Restrained?

☑ No

☐ Yes

Blood Alcohol Level (mg/dl)

BAL = .034

Glasgow Coma Scale Score

GCSS = ____

Units of Blood Given

Units = ____

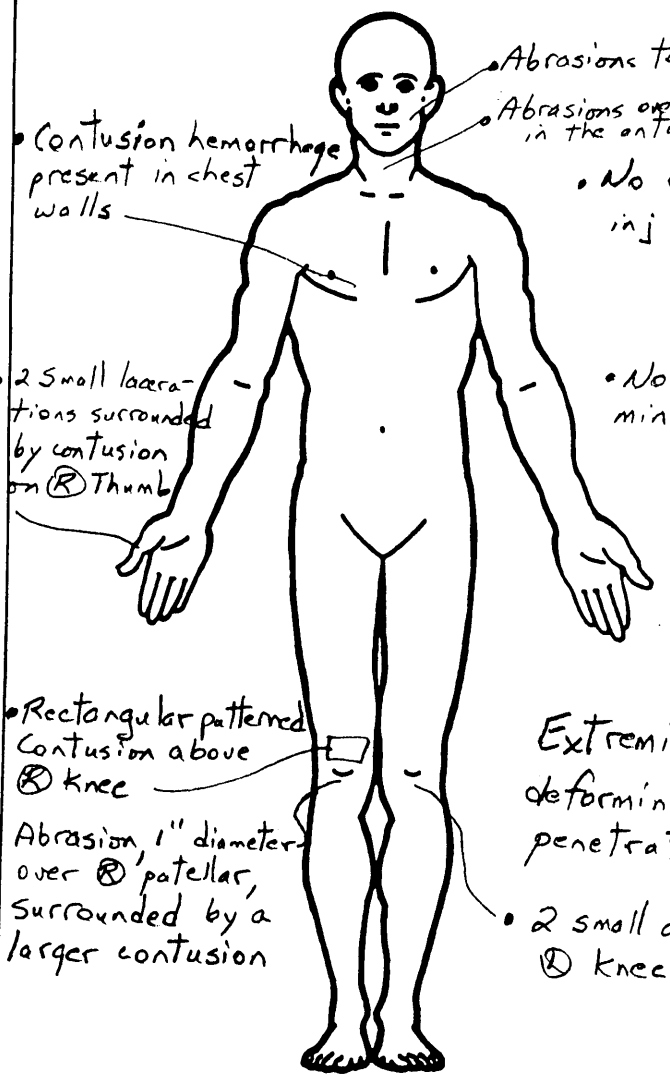
Arterial Blood Gases

pH = __.__

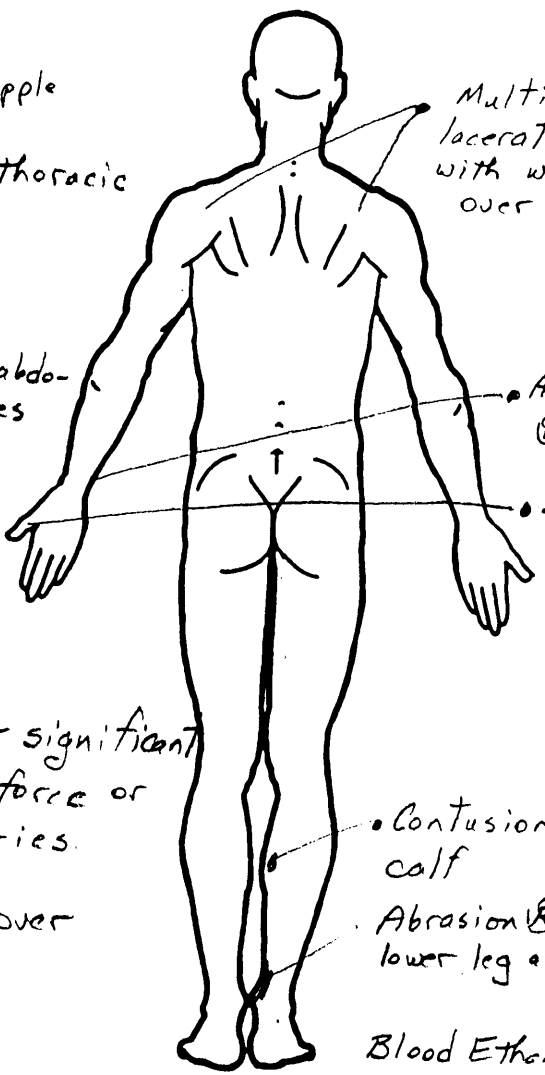
PO_2 = ____

PCO_2 = ____

HCO_3 = ____



- Abrasions to (L) cheek
- Abrasions over adam's apple in the anterior neck
- Contusion hemorrhage present in chest walls
- No external thoracic injuries
- 2 small lacerations surrounded by contusion on (R) Thumb
- No external abdominal injuries
- Rectangular patterned Contusion above (R) knee
- Abrasion, 1" diameter over (R) patellar, surrounded by a larger contusion
- Extremities: no significant deforming blunt force or penetrating injuries
- 2 small abrasions over (R) knee



- Multiple small lacerations associated with window glass over the shoulders
- Abrasion, 2" on (L) wrist
- 2 small lacerations on (L) thumb
- Contusion (R) medial calf
- Abrasion (R) medial lower leg and ankle

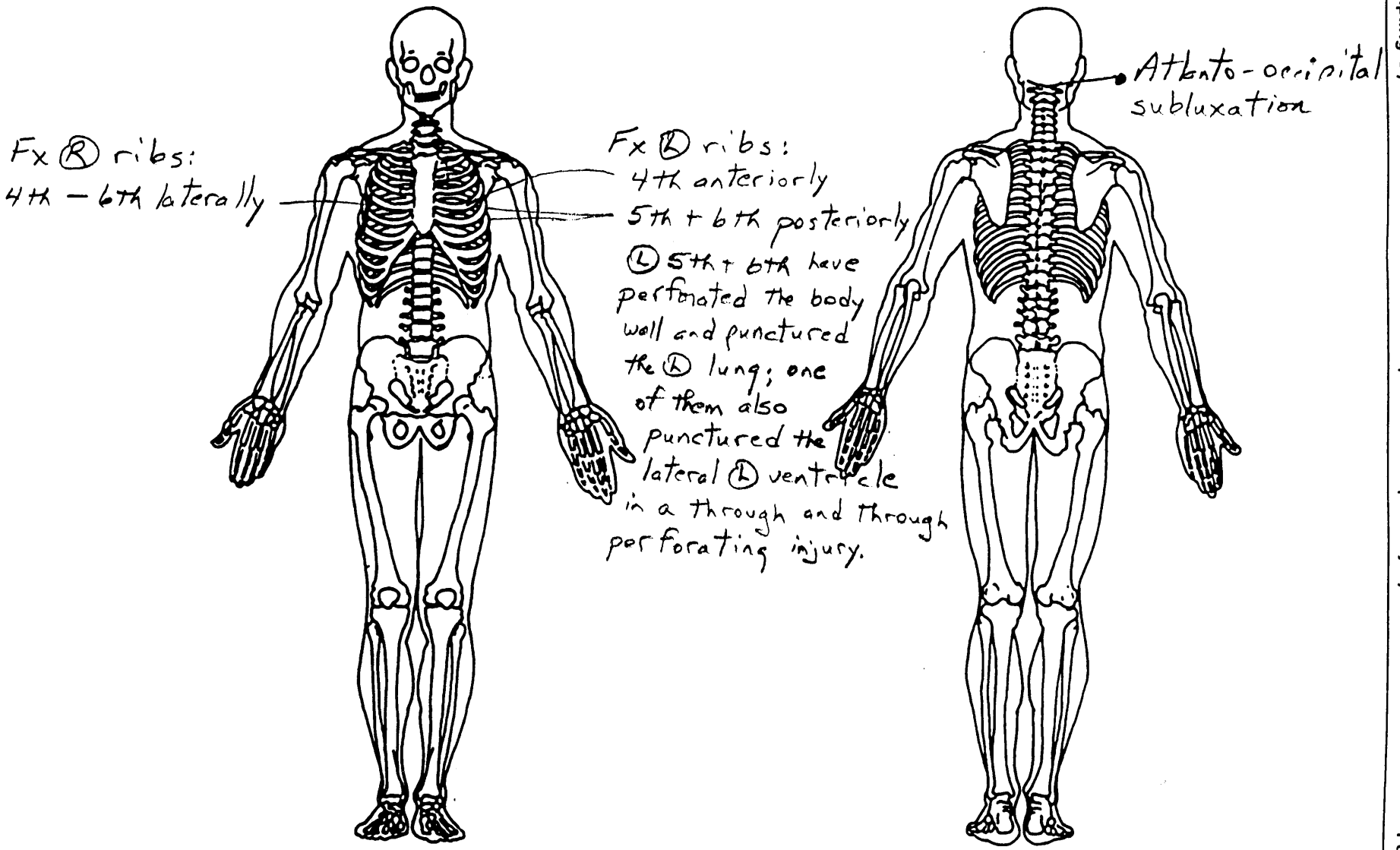
Blood Ethanol = 34mg/dl

- An odor like alcohol is apparent in the body cavities, in stomach

OFFICIAL INJURY DATA — SKELETAL INJURIES

Indicate the Location, **Specific Anatomic Structure**, **Detail** (size, depth, fracture type, head injury clinical signs and neurological deficits), and Source of all injuries indicated by **official sources** (or from PAR or other unofficial sources if medical records and interviewee data are unavailable.)

AUTOPSY



INJURY SOURCES

FRONT
(001) Windshield
(002) Mirror
(003) Sunvisor
(004) Steering wheel rim
(005) Steering wheel hub/spoke
(006) Steering wheel (combination of codes 004 and 005)
(007) Steering column, transmission selector lever, other attachment
(008) Cellular telephone or CB radio
(009) Add on equipment (e.g., tape deck, air conditioner)
(010) Left instrument panel and below
(011) Center instrument panel and below
(012) Right instrument panel and below
(013) Glove compartment door
(014) Knee bolster
(015) Windshield including one or more of the following: front header, A (A1/A2)-pillar, instrument panel, mirror, or steering assembly (driver side only)
(016) Windshield including one or more of the following: front header, A (A1/A2)-pillar, instrument panel, or mirror (passenger side only)
(017) Windshield reinforced by exterior object (specify)
_____
(019) Other front object (specify):
_____

LEFT SIDE
(051) Left side interior surface, excluding hardware or armrests
(052) Left side hardware or armrest
(053) Left A (A1/A2)-pillar
(054) Left B-pillar
(055) Other left pillar (specify):
_____
(056) Left side window glass
(057) Left side window frame
(058) Left side window sill
(059) Left side window glass including one or more of the following: frame, window sill, A (A1/A2)-pillar, B-pillar, or roof side rail.
(060) Other left side object (specify):
_____

RIGHT SIDE
(101) Right side interior surface, excluding hardware or armrests
(102) Right side hardware or armrest
(103) Right A (A1/A2)-pillar
(104) Right B-pillar
(105) Other right pillar (specify):
_____
(106) Right side window glass
(107) Right side window frame
(108) Right side window sill
(109) Right side window glass including one or more of the following: frame, window sill, A (A1/A2)-pillar, B-pillar, or roof side rail.
(110) Other right side object (specify):
_____

INTERIOR
(151) Seat, back support
(152) Belt restraint webbing/buckle
(153) Belt restraint B-pillar or door frame attachment point
(154) Other restraint system component (specify):
_____
(155) Head restraint system
(160) Other occupants (specify):
_____
(161) Interior loose objects
(162) Child safety seat (specify):
_____
(163) Other interior object (specify):
_____

AIR BAG
(170) Air bag-driver side
(171) Air bag-driver side and eyewear
(172) Air bag-driver side and jewelry
(173) Air bag-driver side and object held
(174) Air bag-driver side and object in mouth
(175) Air bag compartment cover-driver side
(176) Air bag compartment cover-driver side and eyewear
(177) Air bag compartment cover-driver side and jewelry
(178) Air bag compartment cover-driver side and object held
(179) Air bag compartment cover-driver side and object in mouth
(180) Air bag-passenger side
(181) Air bag-passenger side and eyewear
(182) Air bag-passenger side and jewelry
(183) Air bag-passenger side and object held
(184) Air bag-passenger side and object in mouth
(185) Air bag compartment cover-passenger side
(186) Air bag compartment cover-passenger side and eyewear
(187) Air bag compartment cover-passenger side and jewelry
(188) Air bag compartment cover-passenger side and object held
(189) Air bag compartment cover-passenger side and object in mouth
(190) Other air bag (specify)
_____
(195) Other air bag compartment cover (specify)
_____

ROOF
(201) Front header
(202) Rear header
(203) Roof left side rail
(204) Roof right side rail
(205) Roof or convertible top

FLOOR
(251) Floor (including toe pan)
(252) Floor or console mounted transmission lever, including console
(253) Parking brake handle
(254) Foot controls including parking brake

REAR
(301) Backlight (rear window)
(302) Backlight storage rack, door, etc.
(303) Other rear object (specify):
_____

ADAPTIVE (ASSISTIVE) DRIVING EQUIPMENT
(401) Hand controls for braking/acceleration
(402) Steering control devices (attached to OEM steering wheel)
(403) Steering knob attached to steering wheel
(405) Replacement steering wheel (i.e., reduced diameter)
(406) Joy stick steering controls
(407) Wheelchair tie-downs
(408) Modification to seat belts, (specify): _____
(409) Additional or relocated switches, (specify):
_____
(410) Raised roof
(411) Wall mounted head rest (used behind wheel chair)
(412) Other adaptive device (specify):_____
_____

EXTERIOR of OCCUPANT'S VEHICLE
(451) Hood
(452) Outside hardware (e.g., outside mirror, antenna)
(453) Other exterior surface or tires (specify):
_____
_____
(454) Unknown exterior objects

EXTERIOR OF OTHER MOTOR VEHICLE
(501) Front bumper
(502) Hood edge
(503) Other front of vehicle (specify):
_____
(504) Hood
(505) Hood ornament
(506) Windshield, roof rail, A-pillar
(507) Side surface
(508) Side mirrors
(509) Other side protrusions (specify):
_____
(510) Rear surface
(511) Undercarriage
(512) Tires and wheels
(513) Other exterior of other motor vehicle (specify): _____
_____
(514) Unknown exterior of other motor vehicle

OTHER VEHICLE OR OBJECT IN THE ENVIRONMENT
(551) Ground
(598) Other vehicle or object (specify):
_____
(599) Unknown vehicle or object

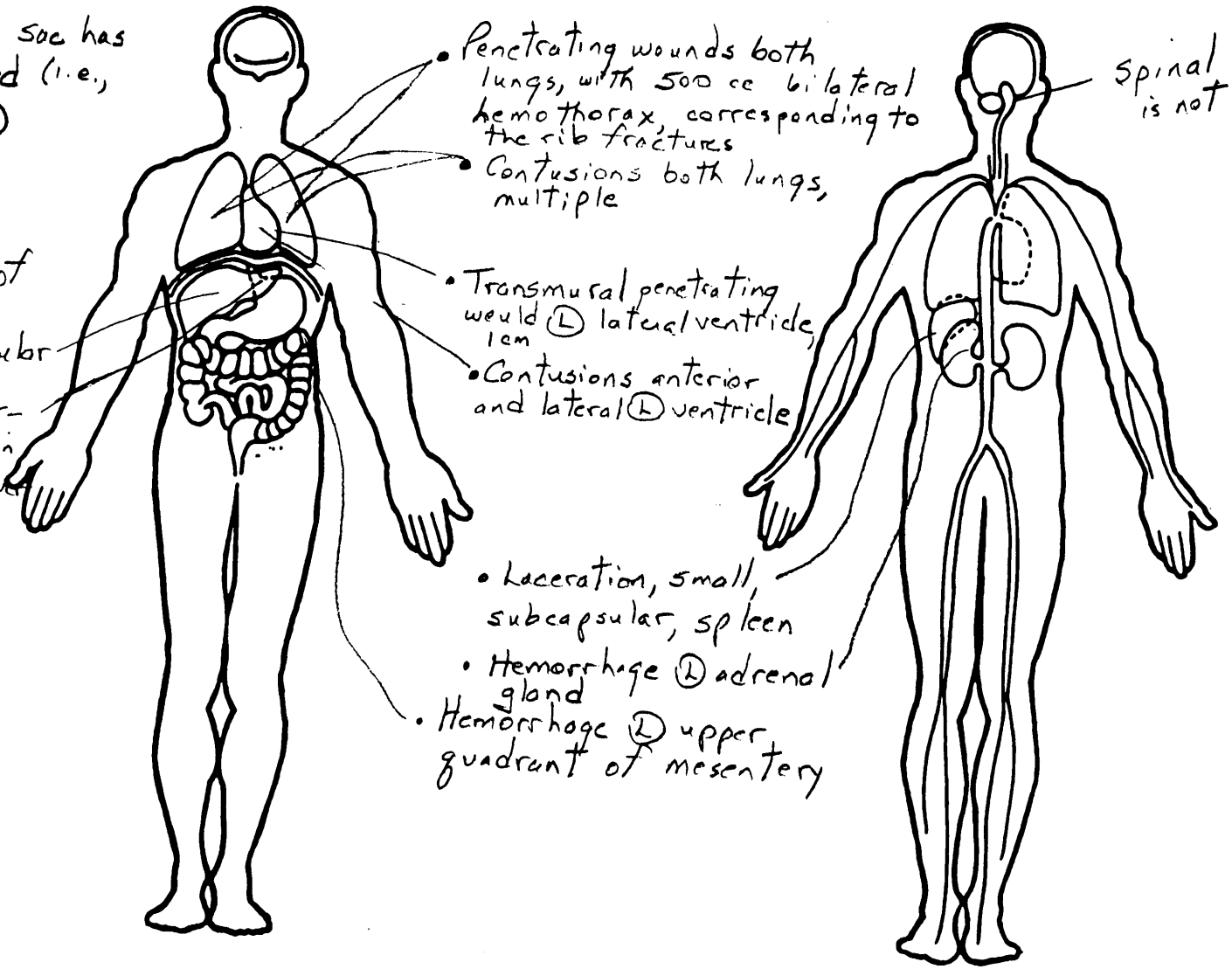
NONCONTACT INJURY
(601) Fire in vehicle
(602) Flying glass
(603) Other noncontact injury source (specify): _____
(604) Air bag exhaust gases
(697) Injured, unknown source

OFFICIAL INJURY DATA —INTERNAL INJURIES

BEST AVAILABLE

Indicate the Location, Specific Anatomic Structure, Detail (size, depth, fracture type, head injury clinical signs and neurological deficits), and Source of all injuries indicated by official sources (or from PAR or other unofficial sources if medical records and interviewee data are unavailable.)

AUTOPSY



CAUSE OF DEATH

BEST AVAILABLE

Blunt force injuries of chest and abdomen

ICD·9·CM

OTHER DRUGS (GV16)

Specimen Test Type	Drug(s)	Drug Type
___ Blood and urine tests ___ Blood test only _✓_ Urine test only ___ Other test ___ Unspecified	Urine positive for nicotine caffeine Negative for: Opiates Amphetamines Barbiturates Benzodiazephines Cocaine metabolites THC metabolites Ethchlorvynol	other Narcotic Stimulant Depressant Depressant Stimulant Cannabinoid Depressant

MEDICAL RECORD ABBREVIATIONS

Symbol	Record Type Description
A	Autopsy–medical information based upon an invasive examination of a body
ME	Medical examiner's record–where the information reported on the patient is based on a non-invasive examination of the body
AR	Admission record/summary–any medical information on this record should be considered as post-ER since it summarizes the patient's admission; these records are common in short hospitalizations and usually only contain: admission DX(s), final DX(s), and a listing of surgical treatments; ICD-9-CM codes are frequently available.
FS	Admission/discharge face sheet–face sheets are essentially the same as admission record/summaries and contain the same types of information as discussed above
DS	Discharge summary–shorten history of a patient's hospitalization highlighting the patient's major injuries; this record is often written from the perspective of its author which in many cases is a consultant
OS	Operative record–summary of a performed surgical operation often providing detailed information about a specific trauma; patients who survive the surgery are normally admitted; thus, this record is normally considered post-ER; however, if this record results from an outpatient surgery, then treat it as emergency-room related
PX	Radiographic records–taken after the patient has been admitted, or while in surgery or intensive care
PN	Patient progress notes–supplemental record containing additional nurses notes taken after the patient's admission
HP	History and physical exam–medical history and the results of the physical exam obtained by the emergency room physician assigned to the patient upon arrival at the emergency room
CN	Consultation record–consultations are in essence additional history and physicial exams performed by doctors whose expertise was requested by the emergency room physician; the consultation may occur during the emergency room visit or after admission
ER	Emergency room report–where the author of this information is undefined
EN	Emergency room nurse–"nurse/complaint of" section on the emergency room report
ED	Emergency room doctor–"objective/physical exam" section plus "diagnosis and treatment" sections (i.e., doctor portion of emergency room report)
NN	Nurse notes–supplemental record containing additional notes taken by the emergency room nurse(s)
EX	Radiographic records–taken during the patients stay in the emergency room
CV	Coroner's verdict–statement of cause of death for legal specific regarding injuries; care must be exercised to ascertain the credentials of the verdict's author.
CR	Coroner's report–medical information based upon a noninvasive examination performed by a person who is not a doctor but who has the title of a coroner
ET	Emergency medical technician–report by a person who qualifies as an emergency medical services technician (EMS or EMT)
O	Other source–medical information based on an other source (e.g., newspaper, DVM–Doctor of Veterinary Medicine)

BEST AVAILABLE

TIME	B/P	PULSE	RESPIRATIONS	SaO2 %	PUPILS	SKIN
2246	76	Rate ☐ Regular ☐ ~~Weak~~ ☐ Irregular ☐ Bounding	Rate 112 ☐ Clear ☐ Equal ☐ Normal ☐ Wheezes ☐ R > L ☐ Labored ☐ Rales ☐ L > R ☐ Assisted		☐ Perl ☐ Constricted ☐ Non-React ☐ Deviated ☐ Dilated ☐ Unequal	☐ Warm ☐ Dry ☐ Moist ☐ Cool ☐ Clammy ☐ Cold ☐ Pale ☐ Sweaty ☐ Assisted Cap. Refill Sec. ____
2210	0	Rate 0 ☐ Regular ☐ Weak ☐ Irregular ☐ Bounding	Rate 0 ☐ Clear ☐ Equal ☐ Normal ☐ Wheezes ☐ R > L ☐ Labored ☐ Rales ☐ L > R ☐ Assisted		☐ Perl ☐ Constricted ☐ Non-React ☐ Deviated ☐ Dilated ☐ Unequal	
		Rate ☐ Regular ☐ Weak ☐ Irregular ☐ Bounding	Rate ☐ Clear ☐ Equal ☐ Normal ☐ Wheezes ☐ R > L ☐ Labored ☐ Rales ☐ L > R ☐ Assisted		☐ Perl ☐ Constricted ☐ Non-React ☐ Deviated ☐ Dilated ☐ Unequal	

O_2 THERAPY

TIME	DOSAGE LPM	ROUTE

GLASGOW COMA SCALE

Eyes Open	Spontaneous	4	4
	To verbal command	(3)	3
	To pain	2	2
	No response	1	(1)
Verbal Response	Oriented	5	5
	Confused	(4)	4
	Inappropriate words	3	3
	Incomprehensible sounds	2	2
	No response	1	(1)
Motor Response	Obeys commands	6	6
	Localized pain	(5)	5
	Withdraws	4	4
	Abnormal flexion	3	3
	Abnormal extension	2	2
	No response	1	(1)
	Total Score	12	3
	Time	2153	2210

Mark each matrix square which applies to injury to specific areas listed below

	Pain	Open Soft	Deformity	Closed Soft	Penetration	Burn	Amputation
Head							
Face / eye							
Neck				✓			
Chest							
Back							
Abdomen							
Upper arm / shoulder							
Lower arm / elbow							
Hand / wrist							
Upper leg / hip							
Lower leg / knee							
Foot / Ankle							

MEDICAL HISTORY

☐ Alcoholism ☐ Heart Disease
☐ Asthma ☐ High Blood Pressure
☐ Behavioral Disorder ☐ Kidney Disease
☐ Cancer ☐ Seizures
☐ COPD ☐ _____
☐ CVA ☐ _____
☐ Diabetes ☐ None

INFECTION CONTROL

☐ Gloves ☑ Goggles ☐ Gowns
☐ Masks ☐ Vehicle draping ☐

Exposure: ☐ Yes ☑ No

Medical direction protocol ☐ On line ☑ Off line ☐ N/A

Condition changed during Transport
☐ No ☑ Deteriorated ☐ Improved

NARRATIVE

TO THE SCENE:	FROM THE SCENE:	NO TRANSPORT		SCENE DEATH:	WORK RELATED:	SUSPECTED:
☑ Lights & Siren ☐ No Lights & Siren	☐ Lights & Siren ☐ No Lights & Siren	☐ Cancelled ☐ Refusal	☐ No Patient ☐ Priv. Car ☐ Amb _____	☑ No Transport ☐ Transport	☐ Yes ☑ No	☐ Alcohol ☐ Drugs

SAFETY EQUIPMENT:
☑ Lap & Shoulder ☐ Secured Child Seat
☑ Air Bag ☐ Unsecured Child Seat
☐ Shoulder Strap ☐ Helmet
☐ Lap Belt ☐ None
☐ Other _____

MODE OF INJURY:
☐ ATV / REC ☐ Explosion ☑ Motorcycle ☐ Unknown
☐ Bicycle ☐ Fall ☑ Motor Vehicle ☐ None
☐ Blunt / Assault ☐ Gunshot ☐ Pedestrian ☐ Other _____
☐ Drowning ☐ Inhalation ☐ Poison
☐ Electrical ☐ Machinery ☐ Stab / Cut ☐ _____
☐ Thermal/flame

PLACE OF INCIDENT:
☐ Home ☐ Hospital
☑ Street/Highway ☐ Clinic
☐ Public Bldg. ☐ Industrial Site
☐ Recreational site ☐ Extended Care Facility
☐ Residential site ☐ Farm

PATIENT LOCATION:
☑ Driver
☐ Passenger
☐ Front
☐ Rear
☐ Ambulatory
☐ Ejected

CARE PRIOR TO AMBULANCE ARRIVAL

AT SCENE
☐ Fire Dept.
☐ Police
☐ Other Amb.
☐ Bystander
☐ Family

CARE PROVIDED
☐ Immobilization ☐ IV's
☐ CPR ☐ Medications
☐ Defib ☐ Oxygen
☐ Dressing ☐ Airway mgt
☐ Extrication ☐ _____

Incident: Time: _____
Witnessed Arrest ☐ Yes ☐
ALS on Scene Time: _____
ALS EMS #

Narrative should include a complete chronological flow of events, including times, patient condition, each procedure rendered and how each affected the patient's condition, and, if patient is monitored, describe ECG and staple ECG strip to original report. Called to 10-50 type unknown @ St Rd ~~_____~~ While enroute officer advised that it was a PI, head on collision @ at least two patients. Upon our arrival noted a ~~Sonb~~ BMC Sierra full size pickup @ cab @ heavy damage to front end @ (L) front corner pushed into drivers compartment. The second vehicle was an Isuzu Rodeo @ the same kind of damage. Two people in vehicle. _____ was in the driver seat, driver door was pushed half way past rear passenger door. Air bag driver side deployed. Steering wheel was bent down. _____ was confused advised he wanted out of the vehicle, and that his neck and back hurt. Pulse-radial was very weak - hard to find. Breathing was labored. Placed C-collar on him from behind for that was the only access I had to him. When placed C-collar noted that the trachea deviated B.L. Initially

Signature of Paramedic | Chauffeur Name | Technician Name | Technician Name

Person receiving Pt. | Medical Control | IHERN ☐ | Cellular ☐ | 800 meg ☐

BILLING INFORMATION

Name of Guarantor	Relationship to Patient	Medicare Number	Mileage
Home Address (street, apartment /RR#, city or town, Zip code)	Employer	Medicaid Number	
	Home Telephone / State	Other Insurance Information	

I request that payment of authorized Medicare benefits be made either to me or on my behalf for any services furnished me by the Columbus Regional Hospital. I authorize any holder of medical or other information about me to release to the Health Care Financing Administration (HCFA) and its agents any information needed to determine these benefits or benefits for related services. I further authorize my treatment and transportation by the Columbus Regional Hospital Ambulance Service.

BEST AVAILABLE

AIRWAY					BLOOD
Time	Attempts	Successful	Tube size	Initial	Blood drawn (time)
					☐ Red ☐ Purple ☐ Green ☐ Blue ☐ Other

ECG

Defibrillation ☐ Automatic ☐ Manual ☐ Semi-automatic	Time / Joules							
Cardiac pacing	Rate /min	Electrical capture mA	Mechanical capture mA	Time of mechanical capture	Interpetation			

After noting trachea distal ~~CM~~ deviated, evaluated for an active airway problem. Had ø radial pulse, breathing shallow and less extensive at by. Could not attempt airway due to patient location. Attempted IV unsuccessful x2. B/p = 72/palp. IV was due to mechanism of injury. At this time Medic arrived, care was transferred to him and he called it as a 10-0. No further care was done ~~by~~ due to multiple injuries and length of ~~extrication~~ extrication. Medic asked for the coroner and was then asked to assist her. Medical Control: No other's changes noted during assistance. -Cell

Signature of Physician

Signature of Medic

Chauffeur

Tech

Gold Copy - Med. Dir.

SCHOOL OF MEDICINE
DEPARTMENT OF PATHOLOGY
FORENSIC DIVISION

AUTOPSY REPORT

Name: [redacted] **Autopsy No:** [redacted]

Age: 39 years **Date:** 1996

Sex: Male **Time:** 7:30 A.M.

Performed by: [redacted] **Performed for:** County Coroner

ANATOMIC FINDINGS

1. Thoracic Trauma
   A. transmural penetrating wound, lateral left ventricle
   B. anterior and lateral left ventricular contusion,
   C. penetrating wounds and corresponding contusion of both lungs
   D. 500 cc bilateral hemothorax
   E. rib fractures: left 4th anteriorly, left 5th & 6th posteriorly, & right 4th through 6th laterally
2. Abdominal Trauma
   A. subcapsular and intraparenchymal lacerations of the liver
   B. small subcapsular splenic laceration
   C. left upper quadrant mesenteric hemorrhage
   D. left adrenal hemorrhage
3. Atlanto-occipital subluxation

[redacted]

TOXICOLOGY

Blood ethanol 34 mg/dL
Urine positive for nicotine and caffeine

[redacted]

CAUSE OF DEATH

Blunt Force Injuries of Chest and Abdomen

MANNER OF DEATH

Accident (Driver)

[redacted], Ph.D., M.D.
Forensic Pathologist

[redacted], M.D.
Resident Pathologist

[redacted]

CIRCUMSTANTIAL SUMMARY

A middle aged white male who was involved in a head-on collision. He was an unrestrained driver struck by a person who crossed the midline.

[redacted]

DOCUMENTS AND EVIDENCE EXAMINED

Telephone conversation with of the County Coroner's Office.

X-RAYS

None

IDENTIFICATION

1996 at 7:30 A.M., a complete post mortem examination was performed on the body of who was identified by County Coroner's toe tag. Persons present for the autopsy included Dr. and

CLOTHING AND VALUABLES: Shirt, jeans, boxers, belt, socks, 1 shoe full of glass, 1 diamond ring, 1 wedding band, 4 sets of keys, $15.82, pocket knife, nail clippers, money clip, pack of cigarettes and lighter

EXTERNAL EXAMINATION

The body is that of a well developed, well nourished white male adult. The body length is 74 inches and the body weight is 166 pounds. Scalp hair is brown. Jaundice is not present in the skin or sclerae.

[redacted]

The head is normocephalic. The irides are blue and the sclerae are white. The pupils are round and equal in diameter. There are no contact lenses present and

there are no conjunctival petechiae. The nose is unremarkable. There is mucus in the nares and mouth. Teeth are present. There is no denture. Oral hygiene is good. The two ears are not pierced.

There is no significant increase in the anteroposterior diameter of the chest. The breasts are symmetrical without palpable masses and the nipples appear normal without discharge. The abdomen is not distended. The external genitalia are those of a long foreskin male adult. The anus is not dilated and has no evidence of injury.

The extremities are symmetrical and there are no significant deforming blunt force or penetrating injuries.

The following scars, nevi and tattoos are present: None

SIGNS OF DEATH: Rigor mortis is generalized and post mortem lividity is purple and fixed on the posterior surface of the body.

ARTIFACTS: The following artifacts of medical and post mortem care are present: Cervical collar

The following artifacts of putrefaction are present: None

INJURIES

There are no external thoracic injuries. The left fourth rib is fractured in an anterior position beyond the costal chondral junction. The left fifth and sixth ribs are fractured in the posterior position. The right fourth, fifth and sixth ribs are fractured laterally. The left fifth and sixth ribs which are fractured, have perforated through the body wall and punctured the left lung. One of them has also punctured the lateral left ventricle in a through and through perforating injury. The pericardial sac has also been opened. There are also contusions and puncture wounds of the right lung. There are no external injuries to the abdomen. There is a small sub capsular hepatic laceration in the right lobe and a large intraparenchymal hepatic laceration within the left lobe of the liver. However, it does not approach the inferior vena cava. There is a small sub capsular laceration of the spleen. A hemorrhage is found within the left adrenal.

There are abrasions to the left cheek and over the adam's apple in the neck. Within the neck, there is an Atlanto-occipital subluxation. The back has multiple small lacerations associated with window glass over the shoulders. There are two small lacerations surrounded by contusion on the right thumb and a 2 inch abrasion on the left wrist. There are two small lacerations also on the left thumb. There is a rectangular patterned contusion above the right knee. Over the patella there is an abrasion that is 1 inch in diameter surrounded by a larger contusion and a contusion of the right medial calf. There is an abrasion of the right medial lower leg and ankle. There are also two small abrasions over the left knee. These injuries may reflect the body having collided with the dashboard.

INTERNAL EXAMINATION

SEROUS CAVITIES: The body cavities are opened with a standard Y-shaped incision. The cranial cavity is opened with a coronal incision of the scalp and removal of the calvarium. An odor like alcohol is apparent in the body cavities. The lungs are well aerated and fill the pleural cavities.

There is no evidence of pneumothorax. There is 500 ml of blood in either pleural cavity. The pleural surfaces are smooth and glistening and there are no pleural adhesions. The pericardial sac is opened. There is no evidence of pericarditis. There is no evidence of peritonitis. There is no blood in the peritoneal cavity. There is no ascitic fluid. After removal of the organs from the body, inspection of the serous cavities reveals no evidence of fracture of the sternum, clavicles, vertebral column or pelvic bones. The left 4th rib is fractured anteriorly and the 5th and 6th left ribs are fractured posteriorly. The right 4th-6th ribs are fractured laterally. Contusion hemorrhage is present in the body walls.

NECK ORGANS: The larynx and trachea are in the midline. The neck dissection is performed following removal of the thoracoabdominal viscera. No significant hemorrhage is present in the skin, fat or sternocleidomastoid muscles of the anterior neck. The strap muscles are free of hemorrhage. The thyroid gland is symmetrical and composed of reddish-brown parenchyma. There is no hemorrhage in the intrinsic muscles of the larynx. The laryngeal cartilages and hyoid bone are not fractured. There is no obstruction of the respiratory tract in the nasopharynx, larynx or trachea. There is scant mucus in the larynx. The mucosa of the hypopharynx, larynx

and trachea is smooth and glistening without ulceration or tumor. The arytenoideus muscles are free of hemorrhage. Cervical lymph nodes are appropriate for age. No fractures or dislocations of the cervical vertebrae are detected.

THYMUS: The thymus is not identified.

HEART: The 370 gram heart is in usual position with respect to the great vessels and chest cavity. The left ventricle is firm. The left ventricle is not significantly hypertrophied and the cardiac chambers are not dilated. On opening the aorta and pulmonary trunk, there is no evidence of air embolism and there is no evidence of pulmonary thromboembolism. There is no evidence of pericarditis. There are no epicardial petechiae. The circumflex coronary artery arises from the left main coronary. The coronary arteries are examined by multiple cross sections. There is no significant atherosclerotic plaque in the major coronary arteries.

The left main coronary artery is generally not narrowed by plaque. The left anterior descending coronary artery is generally not narrowed by plaque. The circumflex coronary artery is generally not narrowed by plaque. The right coronary artery is generally not narrowed by plaque.

Thrombosis of a coronary artery is not present. The cardiac valve leaflets are delicate, translucent and membranous. The circumferences of the cardiac valves are within normal limits for age and heart size.

There is no softening or mottling of the myocardium due to recent myocardial infarction or necrosis. There is no myocardial fibrosis. There is a transmural puncture wound in the lateral left ventricle that measures 1 cm. There is no myocardial contusion. There are no defects in the atrial or ventricular septa. The ductus arteriosus is not patent. Autolysis is not significant.

VASCULAR SYSTEM: The aorta and its main branches show no atherosclerosis. There is no evidence of aneurysm, coarctation, dissection or laceration of the aorta. The renal arteries are not stenotic.

LUNGS: Right: 490 grams. Left: 660 grams. There is moderate bilateral atelectasis. The trachea is complete, without malformation, from the larynx to the carina. There is no aspirated gastric material and no aspirated blood in the trachea. The distal

bronchi contain scant mucus. The pleural surfaces are smooth and glistening. No petechiae are visible. The lungs and hilar nodes are moderately anthracotic and there is mild centrilobular emphysema. There are focal small blebs at the pleural surface of the left lung. On cut section, there is no aspirated blood apparent in alveoli. Bronchopneumonia is not recognized. There is no focal consolidation and no tumor. There is no significant passive congestion of the lungs. There is no evidence of pulmonary edema. There are penetrating wounds of both lungs corresponding to the rib fractures. There are multiple pulmonary contusions. Pulmonary thromboemboli are not present. There is no putrid gas cavitation.

LIVER: The 1670 gram liver has a focally lacerated capsular surface. There is a small right subcapsular laceration and a large left intraparenchymal laceration at approximately the venacula. On cut section, the parenchyma has a nutmeg brown and tan pattern and a lobular architecture. The liver is not significantly passively congested. Metastatic tumor is not present. The hepatic duct is patent. The gallbladder is present. There are no gallstones. Autolysis of the liver is not significant.

PANCREAS: The pancreas is appropriate in shape and size with respect to total body fat stores. On cut surface, it is lobular with interspersed fat without focal calcification, fibrosis, hemorrhage and/or fat necrosis. Autolysis is not significant.

GASTROINTESTINAL SYSTEM: The esophagus is lined with glistening white mucosa. The stomach is coarsely rugated. The stomach contains 50 ml of fluid. There is an odor like alcohol in the stomach. There are no erosions or ulcers in the stomach or duodenum. There is a small mesenteric hemorrhage in the left upper quadrant. The small bowel and colon are intact without perforation, diverticula or palpable tumors. The vermiform appendix is present.

SPLEEN: The 200 gram spleen is composed of very soft red and white trabecular pulp. There is slight laceration of the splenic capsule. Autolysis is not significant.

ADRENALS: Two adrenals are present with golden brown cortex and white medulla.

There is a left adrenal hemorrhage. No cortical nodules are present in either adrenal. Autolysis is not significant.

URINARY TRACT: Right kidney: 120 grams. Left kidney: 150 grams. The two kidneys, ureters and a bladder are present in their usual positions without dilatation. The kidneys are symmetrical in shape and size. The capsules strip from the cortices with ease and the cortical surfaces are smooth. On cut section, the cortex appears of ample thickness and the medulla appears ample. The kidneys are not congested. There are no stones or tumors in the kidneys, pelves, ureters or bladder. The mucosa of the urinary bladder appears glistening. Autolysis of the kidneys is not significant.

REPRODUCTIVE SYSTEM: The prostate is not enlarged. The testes are descended into the scrotum and are usual in size for the age.

CENTRAL NERVOUS SYSTEM: There is no hemorrhage in the scalp and galea. The dura, removed by stripping from the calvarium and base of the skull, shows no epidural or subdural hemorrhage. The cerebral and cerebellar hemispheres of the 1500 gram brain are symmetrical. The leptomeninges are transparent and can be stripped with ease. There is no subarachnoid hemorrhage. There is no flattening of the gyri and no widening of the sulci. The major vessels at the base of the brain have a usual anatomic distribution and there is no significant atherosclerosis. The cranial nerves are symmetrical and intact. There is no evidence of herniation at any of the portals of the brain. On serial coronal sectioning of the brain, there is no internal evidence of contusion, edema, hemorrhage, tumor, atrophy, infection or infarction in the cerebrum, cerebellum and brain stem. There are no fractures of the convexity or base of the skull. There is an Atlanto-occipital subluxation. The spinal cord is not examined.

PHOTOGRAPHS: None

SPECIMENS FOR FIREARMS EXAMINATION OR TRACE EVIDENCE: None

SPECIMENS FOR TOXICOLOGY: Blood and urine
Specimens Analyzed: Blood and urine

SPECIMENS FOR CHEMICAL ANALYSIS: None

SPECIMENS FOR CULTURE: None

MICROSCOPIC EXAMINATION: Tissue samples representative of the major organs and injuries have been processed onto glass slides for microscopic examination. These histologic specimens have been examined and there are no additional significant pathologic findings other than those noted on the Anatomic Findings.

UNIVERSITY

FORENSIC TOXICOLOGY REPORT

SCHOOL OF MEDICINE

Demographic Data:
Name: Case No.:
Submitted by: Forensic Pathology Date submitted: 0830
Specimens:

1	Blood, gray top	96-7760
1	Urine (7 mL)	96-7761

Chain of Custody: Acceptable
Tests ordered: Blood volatile screen; Urine drug screen

RESULTS

Blood Volatile Screen	Positive	
	Ethanol	34 mg/dL
Urine Immunoassay Screens		
Opiates	Negative	
Amphetamines	Negative	
Barbiturates	Negative	
Benzodiazepines	Negative	
Cocaine metabolites	Negative	
THC metabolites	Negative	
Urine ethchlorvynol spot test	Negative	
Urine basic drug GC/MS Screen consistent with:	Nicotine/Cotinine Caffeine	

DEPARTMENT OF PATHOLOGY AND LABORATORY MEDICINE

DRUG ANALYSIS LABORATORY FOR ATHLETIC DRUG TESTING AND TOXICOLOGY

Results reviewed by:

Date: 96

NASS CDS OCCUPANT ASSESSMENT FORM:
CASE VEHICLE RIGHT FRONT PASSENGER

U.S. Department of Transportation
National Highway Traffic Safety Administration

OCCUPANT ASSESSMENT FORM

Form Approved
O.M.B. No. 2127-0021

NATIONAL ACCIDENT SAMPLING SYSTEM
CRASHWORTHINESS DATA SYSTEM

1. Primary Sampling Unit Number: 10
2. Case Number - Stratum: 96 16
3. Vehicle Number: 01
4. Occupant Number: 02

OCCUPANT'S CHARACTERISTICS

5. Occupant's Age: 49
Code actual age at time of accident.
(00) Less than one year old (specify by month): _____
(97) 97 years and older
(99) Unknown

6. Occupant's Sex: 2
(1) Male
(2) Female-not reported pregnant
(3) Female-pregnant-1st trimester(1st-3rd month)
(4) Female-pregnant-2nd trimester(4th-6th month)
(5) Female-pregnant-3rd trimester(7th-9th month)
(6) Female-pregnant-term unknown
(9) Unknown

7. Occupant's Height: 168
Code actual height to the nearest centimeter.
(999) Unknown
66 inches X 2.54 = 167.6 centimeters

8. Occupant's Weight: 092
Code actual weight to the nearest kilogram.
(999) Unknown
202 pounds X .4536 = 91.6 kilograms

9. Occupant's Role: 2
(1) Driver
(2) Passenger
(9) Unknown

OCCUPANT'S SEATING

10. Occupant's Seat Position: 13
Front Seat
(11) Left side
(12) Middle
(13) Right side
(14) Other (specify): _____
(15) On or in the lap of another occupant

Second Seat
(21) Left side
(22) Middle
(23) Right side
(24) Other (specify): _____
(25) On or in the lap of another occupant

Third Seat
(31) Left side
(32) Middle
(33) Right side
(34) Other (specify): _____
(35) On or in the lap of another occupant

Fourth Seat
(41) Left side
(42) Middle
(43) Right side
(44) Other (specify): _____
(45) On or in the lap of another occupant

(97) In or on unenclosed area
(98) Other seat (specify): _____
(99) Unknown

11. Occupant's Posture: 9
(0) Normal posture

Abnormal posture
(1) Kneeling or standing on seat
(2) Lying on or across seat
(3) Kneeling, standing or sitting in front of seat
(4) Sitting sideways or turned to talk with another occupant or to look out a rear window
(5) Sitting on a console
(6) Lying back in a reclined seat position
(7) Bracing with feet or hands on a surface in front of seat
(8) Other abnormal posture (specify): _____
(9) Unknown

EJECTION/ENTRAPMENT

12. Ejection 0
    (0) No ejection
    (1) Complete ejection
    (2) Partial ejection
    (3) Ejection, unknown degree
    (9) Unknown

13. Ejection Area 0
    (0) No ejection
    (1) Windshield
    (2) Left front
    (3) Right front
    (4) Left rear
    (5) Right rear
    (6) Rear
    (7) Roof
    (8) Other area (e.g., back of pickup, etc.)
    (specify):_____
    (9) Unknown

14. Ejection Medium 0
    (0) No ejection
    (1) Door/hatch/tailgate
    (2) Nonfixed roof structure
    (3) Fixed glazing
    (4) Nonfixed glazing (specify):
    _____
    (5) Integral structure
    (8) Other medium (specify):
    _____
    (9) Unknown

15. Medium Status (Immediately Prior To Impact) 0
    (0) No ejection
    (1) Open
    (2) Closed
    (3) Integral structure
    (9) Unknown

16. Entrapment 0
    (0) Not entrapped/exit not inhibited
    (1) Entrapped/pinned - mechanically restrained
    (2) Could not exit vehicle due to jammed doors, fire, etc.
    (specify):_____
    _____
    (9) Unknown

17. Occupant Mobility 0
    (0) Occupant fatal before removed from vehicle
    (1) Removed from vehicle while unconscious or not oriented to time or place
    (2) Removed from vehicle due to perceived serious injuries
    (3) Exited vehicle with some assistance
    (4) Exited vehicle under own power
    (5) Occupant fully ejected
    (8) Removed from vehicle for other reasons
    (specify): _____
    (9) Unknown

BELT SYSTEM FUNCTION

18. Manual (Active) Belt System Availability — 4
(0) None available
(1) Belt removed/destroyed
(2) Shoulder belt
(3) Lap belt
(4) Lap and shoulder belt
(5) Belt available—type unknown

Integral Belt Partially Destroyed
(6) Shoulder belt (lap belt destroyed/removed)
(7) Lap belt (shoulder belt destroyed/removed)
(8) Other belt (specify):

(9) Unknown

19. Manual (Active) Belt System Use — 04
(00) None used, not available, or belt removed/destroyed
(01) Inoperative (specify):

(02) Shoulder belt
(03) Lap belt
(04) Lap and shoulder belt
(05) Belt used—type unknown
(08) Other belt used (specify):

(12) Shoulder belt used with child safety seat
(13) Lap belt used with child safety seat
(14) Lap and shoulder belt used with child safety seat
(15) Belt used with child safety seat—type unknown
(18) Other belt used with child safety seat (specify):
(99) Unknown if belt used

20. Proper Use of Manual (Active) Belts — 1
(0) None used or not available
(1) Belt used properly
(2) Belt used properly with child safety seat

Belt Used Improperly
(3) Shoulder belt worn under arm
(4) Shoulder belt worn behind back or seat
(5) Belt worn around more than one person
(6) Lap belt worn on abdomen
(7) Lap belt or lap and shoulder belt used improperly with child safety seat (specify):

(8) Other improper use of manual belt system (specify):

(9) Unknown

21. Manual (Active) Belt Failure Modes During Accident — 1
(0) No manual belt used or not available
(1) No manual belt failure(s)
(2) Torn webbing (stretched webbing not included)
(3) Broken buckle or latchplate
(4) Upper anchorage separated
(5) Other anchorage separated (specify):

(6) Broken retractor
(7) Combination of above (specify):

(8) Other manual belt failure (specify):

(9) Unknown

22. Manual Shoulder Belt Upper Anchorage Adjustment — 1
(0) No manual shoulder belt
(1) No upper anchorage adjustment for manual shoulder belt

Adjustable shoulder Belt Upper Anchorage
(2) In full up position
(3) In mid position
(4) In full down position
(5) Position unknown
(9) Unknown if position has adjustable upper anchorage adjustment

23. Automatic (Passive) Belt System Availability/ Function — 0
(0) Not equipped/not available
(1) 2 point automatic belts
(2) 3 point automatic belts
(3) Automatic belts - type unknown

Non-functional
(4) Automatic belts destroyed or rendered inoperative
(9) Unknown

24. Automatic (Passive) Belt System Use — 0
(0) Not equipped/not available/destroyed or rendered inoperative
(1) Automatic belt in use
(2) Automatic belt not in use (manually disconnected, motorized track inoperative) (specify):
(3) Automatic belt use unknown
(9) Unknown

25. Automatic (Passive) Belt System Type — 0
(0) Not equipped/not available
(1) Non-motorized system
(2) Motorized system
(9) Unknown

26. Proper Use of Automatic (Passive) Belt System — 0
(0) Not equipped/not available/not used
(1) Automatic belt used properly
(2) Automatic belt used properly with child safety seat

Automatic Belt Used Improperly
(3) Automatic shoulder belt worn under arm
(4) Automatic shoulder belt worn behind back
(5) Automatic belt worn around more than one person
(6) Lap portion of automatic belt worn on abdomen
(7) Automatic lap and shoulder belt or automatic shoulder belt used improperly with child safety seat (specify):

(8) Other improper use of automatic belt system (specify):
(9) Unknown

27. Automatic (Passive) Belt Failure Modes During Accident — 0
(0) Not equipped/not available/not in use
(1) No automatic belt failure(s)
(2) Torn webbing (stretched webbing not included)
(3) Broken buckle or latchplate
(4) Upper anchorage separated
(5) Other anchorage separated (specify):

(6) Broken retractor
(7) Combination of above (specify):
(8) Other automatic belt failure (specify):

(9) Unknown

POLICE REPORTED RESTRAINT USE

28. Police Reported Belt Use 4
    (0) None used
    (1) Police did not indicate belt use
    (2) Shoulder belt
    (3) Lap belt
    (4) Lap and shoulder belt
    (5) Belt used, type not specified
    (6) Child safety seat
    (7) Automatic belt
    (8) Other type belt, (specify):

    _____
    (9) Police indicated "unknown"

29. Police Reported Air Bag Availability/Function 1
    (0) No air bag available
    (1) Police did not indicate air bag availability/function
    (2) Deployed
    (3) Not deployed
    (4) Unknown if deployed
    (9) Police indicated "unknown"

Check the Primary Source Used In Determining Belt Use.

[X] Vehicle inspection
[ ] Official injury data
[ ] Driver/occupant interview
[ ] Other (specify):

_____

[ ] Unknown if belt used

AIR BAG SYSTEM FUNCTION

30. Frontal Air Bag System Availability/Function (This Occupant Position) 1
    (0) Not equipped/not available
    (1) Air bag

    Non-functional
    (2) Air bag disconnected (specify):

    _____
    (3) Air bag not reinstalled
    (9) Unknown

31. Frontal Air Bag System Deployment (This Occupant Position) 1
    (0) Not equipped/not available
    (1) Deployed during accident (as a result of impact)
    (2) Deployed inadvertently just prior to accident
    (3) Deployed, details unknown
    (4) Deployed as a result of a noncollision event during accident sequence (e.g., fire, explosion, electrical)
    (5) Unknown if deployed
    (7) Nondeployed
    (9) Unknown

32. Other Than First Seat Frontal Air Bag Availability/Function (This Occupant Position) 0
    (0) Not equipped/not available
    (1) Air bag

    Non-functional
    (2) Air bag disconnected (specify):

    _____
    (3) Air bag not reinstalled
    (9) Unknown

    Specify type of "other" air bag present:

    _____

33. Air Bag(s) Deployment, Other Than First Seat Frontal (This Occupant Position) 0
    (0) Not equipped with an "other" air bag
    (1) Deployed during accident (as a result of impact)
    (2) Deployed inadvertently just prior to accident
    (3) Deployed, details unknown
    (4) Deployed as a result of a noncollision event during accident sequence (e.g., fire, explosion, electrical)
    (5) Unknown if deployed
    (7) Nondeployed
    (9) Unknown

34. Are There Indications of Air Bag System Failure? (This Occupant Position) 1
    (0) Not equipped/not available
    (1) No
    (2) Yes (specify):

    _____
    (9) Unknown

FIRST SEAT FRONTAL AIR BAG SYSTEM EVALUATION

35. Had Vehicle Been in Previous Accident(s)? 1
(0) Not equipped/not available
(1) No previous accidents

Yes
(2) Previous accident(s) without deployment(s)
(3) One previous accident with deployment
(4) More than one previous accident with at least one deployment
(8) Previous accidents, unknown deployment status
(9) Unknown

36. Type of Air Bag 1
(0) Not equipped/not available
(1) Original manufacturer installed system
(2) Retrofitted air bag
(3) Replacement air bag
(8) Unknown type of air bag
(9) Unknown

37. Had Any Prior Maintenance/Service Been Performed On This Air Bag System? 1
(0) Not equipped/not available
(1) No prior maintenance
(2) Yes, prior maintenance (specify): _____
(9) Unknown

38. Air Bag Deployment Accident Event Sequence Number 01
(00) Not equipped/not available
____ Code the accident event sequence number that initiated the air bag deployment
(96) Deployed, unknown event
(97) Not deployed
(98) Unknown if deployed
(99) Unknown

39. CDC For Air Bag Deployment Impact 1
(0) Not equipped/not available
(1) Highest delta V
(2) Second highest delta V
(3) Other non-coded delta V (specify): _____
(6) Deployed, unknown event
(7) Not deployed
(8) Unknown if deployed
(9) Unknown

40. Longitudinal Component of Delta V For Air Bag Deployment Impact +(-)041
(_000) Not equipped/not available
Code the value of the delta V for the impact that initiated the air bag deployment
(_996) Deployment, unknown longitudinal Delta V
(_997) Not deployed
(_998) Unknown if deployed
(_999) Unknown

41. Did Air Bag Module Cover Flap(s) Open At Designated Tear Points? 2
(0) Not equipped/not available
(1) No
(2) Yes
(3) Deployed, unknown if flap(s) opened at designated tear points
(7) Not deployed
(8) Unknown if deployed
(9) Unknown

42. Were Air Bag Module Cover Flap(s) Damaged? 1
(0) Not equipped/not available
(1) No
(2) Yes (specify): _____
(3) Deployed, unknown if air bag module cover flap(s) damaged
(7) Not deployed
(8) Unknown if deployed
(9) Unknown

43. Was There Damage To The Air Bag? 01
(00) Not equipped/not available
(01) Not damaged

Yes - Air Bag Damage
(02) Ruptured
(03) Cut
(04) Torn
(05) Holed
(06) Burned
(07) Abraded
(88) Other damage (specify): _____
(95) Damaged, details unknown
(96) Deployed, unknown if damaged
(97) Not deployed
(98) Unknown if deployed
(99) Unknown

FIRST SEAT FRONTAL AIR BAG SYSTEM EVALUATION *continued*

44. Source of Air Bag Damage 01
(00) Not equipped/not available
(01) Not damaged
(02) Object worn by occupant, (specify):
(03) Object carried by occupant, (specify):
(04) Adaptive/assistive controls, (specify):
(05) Fire in vehicle
(06) Thermal burns
(07) Rescue or emergency efforts
(88) Other damage source (specify):
(95) Damaged, unknown source
(96) Deployed, unknown if damaged
(97) Not deployed
(98) Unknown if deployed
(99) Unknown

45. Was The Air Bag Tethered? 2
(0) Not equipped/not available
(1) No
(2) Yes (specify number of tether straps): Two
(3) Deployed, unknown if tethered
(7) Not deployed
(8) Unknown if deployed
(9) Unknown

46. Did The Air Bag Have Vent Ports? 2
(0) Not equipped/not available
(1) No
(2) Yes (specify number of vent ports): Two
(3) Deployed, unknown if vent ports present
(7) Not deployed
(8) Unknown if deployed
(9) Unknown

47. Was the Air Bag in this Occupant's Position Contacted by Another Occupant? 1
(0) Not equipped/not available
(1) No
(2) Yes (specify):
(3) Deployed, unknown if other occupant contact to air bag
(7) Not deployed
(8) Unknown if deployed
(9) Unknown

48. Was This Occupant Wearing Eye-wear? 1
(0) Not air bag equipped/air bag not available
(1) No
(2) Eyeglasses/sunglasses
(3) Contact lenses
(4) Deployed, unknown if eyewear worn
(7) Not deployed
(8) Unknown if deployed
(9) Unknown

HEAD RESTRAINT AND SEAT EVALUATION

49. Head Restraint Type/Damage by Occupant at This Occupant Position 3
(0) No head restraints
(1) Integral—no damage
(2) Integral—damaged during accident
(3) Adjustable—no damage
(4) Adjustable—damaged during accident
(5) Add-on—no damage
(6) Add-on—damaged during accident
(8) Other (specify):
(9) Unknown

50. Seat Type (this Occupant Position) 02
(00) Occupant not seated or no seat
(01) Bucket
(02) Bucket with folding back
(03) Bench
(04) Bench with separate back cushions
(05) Bench with folding back(s)
(06) Split bench with separate back cushions
(07) Split bench with folding back(s)
(08) Pedestal (i.e., column supported)
(09) Box mounted seat (i.e., van type)
(10) Other seat type (specify):
(99) Unknown

51. Seat Orientation (this Occupant Position) 1
(0) Occupant not seated or no seat
(1) Forward facing seat
(2) Rear facing seat
(3) Side facing seat (inward)
(4) Side facing seat (outward)
(8) Other (specify):
(9) Unknown

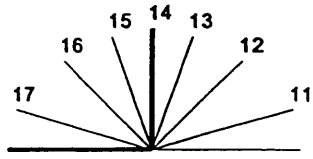
52. Seat Track Adjusted Position Prior To Impact 6
(0) Occupant not seated or no seat
(1) Non-adjustable seat track

Adjustable Seat Track
(2) Seat at forward most track position
(3) Seat between forward most and middle track positions
(4) Seat at middle track position
(5) Seat between middle and rear most track positions
(6) Seat at rear most track position per Vehicle Inspection
(9) Unknown

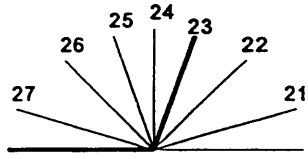
HEAD RESTRAINT AND SEAT EVALUATION *continued*

53. Seat Back Incline Prior and Post Impact 23
    (00) Occupant not seated or no seat
    (01) Not adjustable

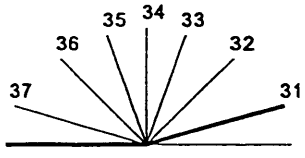
    Upright prior to impact
    (11) Moved to completely rearward position
    (12) Moved to rearward midrange position
    (13) Moved to slightly rearward position
    (14) Retained pre-impact position
    (15) Moved to slightly forward position
    (16) Moved to forward midrange position
    (17) Moved to completely forward position



    Slightly reclined prior to impact
    (21) Moved to completely rearward position
    (22) Moved to rearward midrange position
    (23) Retained pre-impact position
    (24) Moved to upright position
    (25) Moved to slightly forward position
    (26) Moved to forward midrange position
    (27) Moved to completely forward position



    Completely reclined prior to impact
    (31) Retained pre-impact position
    (32) Moved to rearward midrange position
    (33) Moved to slightly rearward position
    (34) Moved to upright position
    (35) Moved to slightly forward position
    (36) Moved to forward midrange position
    (37) Moved to completely forward position



    (99) Unknown

54. Seat Performance (this Occupant Position) 1
    (0) Occupant not seated or no seat
    (1) No seat performance failure(s)
    (2) Seat adjusters failed
    (3) Seat back folding locks or "seat back" failed (specify):_____
    (4) Seat track/anchors failed
    (5) Deformed by impact of occupant
    (6) Deformed by passenger compartment intrusion, (specify):_____
    _____
    (7) Combination of above (specify):
    _____
    (8) Other (specify): _____
    (9) Unknown

CHILD SAFETY SEAT

55. Child Safety Seat Make/Model 0 0 0
(000) No child safety seat
Applicable codes are found in your NASS CDS Data Collection, Coding and Editing
(950) Built-in child safety seat
(997) Other make/model (specify):
_____
(998) Unknown make/model
(999) Unknown if child safety seat used

56. Type of Child Safety Seat 0
(0) No child safety seat
(1) Infant seat
(2) Toddler seat
(3) Convertible seat
(4) Booster seat - with shield
(5) Booster seat - without shield
(7) Other type child safety seat (specify):
_____
(8) Unknown child safety seat type
(9) Unknown if child safety seat used

57. Child Safety Seat Orientation 0 0
(00) No child safety seat

Designed for Rear Facing for This Age/Weight
(01) Rear facing
(02) Forward facing
(08) Other orientation (specify):
_____
(09) Unknown orientation

Designed For Forward Facing for This Age/Weight
(11) Rear facing
(12) Forward facing
(18) Other orientation (specify):
_____
(19) Unknown orientation

Unknown Design or Orientation For This Age/Weight, or Unknown Age/Weight
(21) Rear facing
(22) Forward facing
(28) Other orientation (specify):
_____
(29) Unknown orientation

(99) Unknown if child safety seat used

58. Child Safety Seat Harness Usage 0 0

59. Child Safety Seat Shield Usage 0 0

60. Child Safety Seat Tether Usage 0 0

Note: Options below applicable to Variables OA58-OA60.
(00) No child safety seat

Not Designed With Harness/Shield/Tether
(01) After market harness/shield/tether added, not used
(02) After market harness/shield/tether used
(03) Child safety seat used, but no after market harness/shield/tether added
(09) Unknown if harness/shield/tether added or used

Designed With Harness/Shield/Tether
(11) Harness/shield/tether not used
(12) Harness/shield/tether used
(19) Unknown if harness/shield/tether used

Unknown If Designed With Harness/Shield/Tether
(21) Harness/shield/tether not used
(22) Harness/shield/tether used
(29) Unknown if harness/shield/tether used

(99) Unknown if child safety seat used

INJURY CONSEQUENCES

61. Injury Severity (Police Rating) 4

(0) O - No injury
(1) C - Possible injury
(2) B - Nonincapacitating injury
(3) A - Incapacitating injury
(4) K - Killed
(5) U - Injury, severity unknown
(6) Died prior to accident
(9) Unknown

62. Treatment - Mortality 1

(0) No treatment
(1) Fatal
(2) Fatal - ruled disease (specify):

_____

Nonfatal
(3) Hospitalization
(4) Transported and released
(5) Treatment at scene - nontransported
(6) Treatment later
(7) Treatment - other (specify):

_____

(8) Transported to a medical facility-unknown if treated
(9) Unknown

63. Type Of Medical Facility (for Initial Treatment) 0

(0) Not treated at a medical facility
(1) Trauma center
(2) Hospital
(3) Medical clinic
(4) Physician's office
(5) Treatment later at medical facility
(8) Other (specify):

_____

(9) Unknown

64. Hospital Stay 0 0

(00) Not Hospitalized
____Code the number of days (up through 60) that the occupant stayed in hospital.
(61) 61 days or more
(99) Unknown

65. Working Days Lost 6 2

____Code the number of days (up through 60) that the occupant lost from work due to the accident
(00) No working days lost
(61) 61 days or more
(62) Fatally injured
(97) Not working prior to accident
(99) Unknown

STOP WORK HERE

VARIABLES 66-74

TO BE CODED BY THE ZONE CENTER

TO BE CODED BY THE ZONE CENTER

INJURY CONSEQUENCES

66. Time to Death — 01
____Code number of hours from time of accident to time of death up through 24 hours. If time of death is greater than 24 hours, code number of days. (Note: 1 day = 31, 2 days = 32, ... n days = 30 +n up through 30 days = 60)
(00) Not fatal
(96) Fatal - ruled disease
(99) Unknown

67. 1st Medically Reported Cause of Death — 01

68. 2nd Medically Reported Cause of Death — 03

69. 3rd Medically Reported Cause of Death — 02
____Code the Occupant Injury from line number(s) for the medically reported injury(s) which reportedly contributed to this occupant's death
(00) Not fatal or no additional causes
(96) Mode of death given but specific injuries are not linked to cause of death. (specify):
_____
(97) Other result (includes fatal ruled disease) (specify):
_____
(99) Unknown

70. Number of Recorded Injuries for This Occupant — 09
9 Code the actual number of injuries recorded for this occupant.
(00) No recorded injuries
(97) Injured, details unknown
(99) Unknown if injured

TRAUMA DATA

71. Glasgow Coma Scale (GCS) Score (at Medical Facility) — 01
(00) Not injured
(01) Injured - not treated at medical facility
(02) No GCS Score at medical facility
(03-15) Code the actual value of the initial GCS Score recorded at medical facility.
(97) Injured, details unknown
(99) Unknown if injured

72. Was the Occupant Given Blood? — 1
(1) No - blood not given
(2) Yes - blood given
(specify units):_____
(9) Unknown if blood given

73. Arterial Blood Gases (ABG) – HCO_3 — 01
(00) Not injured
(01) Injured, ABGs not measured or reported
(02-50) Code the actual value of the HCO_3
(96) ABGs reported , HCO_3 unknown
(97) Injured, details unknown
(99) Unknown if injured

BELT USE DETERMINATION

74. Primary Source of Belt Use Determination — 1
(0) Not equipped/not available/destroyed or rendered inoperative
(1) Vehicle inspection
(2) Official injury data
(3) Driver/occupant interview
(8) Other (specify):_____
(9) Unknown if belt used

NASS CDS OCCUPANT INJURY FORM:
CASE VEHICLE RIGHT FRONT PASSENGER

BEST AVAILABLE

U.S. Department of Transportation
National Highway Traffic Safety Administration

OCCUPANT INJURY FORM

Form Approved
O.M.B. No. 2127-0021

NATIONAL ACCIDENT SAMPLING SYSTEM
CRASHWORTHINESS DATA SYSTEM

1. Primary Sampling Unit Number	10	3. Vehicle Number	01
2. Case Number - Stratum	9616	4. Occupant Number	02

INJURY DATA

Record below the actual injuries sustained by this occupant that were identified from the official and unofficial data sources. Remember not to double count an injury just because it was identified from two different sources. If greater than ten injuries have been documented, encode the balance on the Occupant Injury Supplement.

	Source of Injury Data	A.I.S. - 90 Body Region	Type of Anatomic Structure	Specific Anatomic Structure	Level of Injury	A.I.S. Severity	Aspect	Injury Source	Injury Source Confidence Level	Direct/ Indirect Injury	Occupant Area Intrusion Number
Laceration Basilar Artery	1st	5. 1	6. 1	7. 2	8. 07	9. 02	10. 5	11. 9	12. 180	13. 3	14. 2	15. 00
Subarachnoid Hemorrhage	2nd	16. 1	17. 1	18. 4	19. 06	20. 24	21. 3	22. 9	23. 180	24. 3	25. 2	26. 00
Subluxation Atlanto Occipital	3rd	27. 1	28. 6	29. 5	30. 02	31. 08	32. 2	33. 6	34. 180	35. 3	36. 2	37. 00
Contusion (R) shoulder	4th	38. 1	39. 7	40. 9	41. 04	42. 02	43. 1	44. 1	45. 152	46. 1	47. 1	48. 00
Contusion Chest	5th	49. 1	50. 4	51. 9	52. 04	53. 02	54. 1	55. 9	56. 152	57. 1	58. 1	59. 00
Contusion across abdomen	6th	60. 1	61. 5	62. 9	63. 04	64. 02	65. 1	66. 8	67. 152	68. 1	69. 1	70. 00
Abrasion (R) groin	7th	71. 1	72. 8	73. 9	74. 02	75. 02	76. 1	77. 1	78. 697	79. 9	80. 7	81. 99
Contusion (L) Thigh	8th	82. 1	83. 8	84. 9	85. 04	86. 02	87. 1	88. 2	89. 697	90. 9	91. 7	92. 99
Lacerations (L) Thigh	9th	93. 1	94. 8	95. 9	96. 06	97. 02	98. 1	99. 2	100. 601	101. 3	102. 3	103. 00
	10th	104.	105.	106.	107.	108.	109.	110.	111.	112.	113.	114.

HS Form 433B (1/96)

This report is authorized by P.L. 89-563, Title 1, Section 106, 108, and 112. While you are not required to respond, your cooperation is needed to make the results of this data collection effort comprehensive, accurate, and timely.

OCCUPANT INJURY DATA

	Source of Injury Data	A.I.S. - 90 Body Region	Type of Anatomic Structure	Specific Anatomic Structure	Level of Injury	A.I.S. Severity	Aspect	Injury Source	Injury Source Confidence Level	Direct/ Indirect Injury	Occupant Area Intrusion Number
11th	—	—	—	— —	— —	—	—	— — —	—	—	— —
12th	—	—	—	— —	— —	—	—	— — —	—	—	— —
13th	—	—	—	— —	— —	—	—	— — —	—	—	— —
14th	—	—	—	— —	— —	—	—	— — —	—	—	— —
15th	—	—	—	— —	— —	—	—	— — —	—	—	— —
16th	—	—	—	— —	— —	—	—	— — —	—	—	— —
17th	—	—	—	— —	— —	—	—	— — —	—	—	— —
18th	—	—	—	— —	— —	—	—	— — —	—	—	— —
19th	—	—	—	— —	— —	—	—	— — —	—	—	— —
20th	—	—	—	— —	— —	—	—	— — —	—	—	— —
21st	—	—	—	— —	— —	—	—	— — —	—	—	— —
22nd	—	—	—	— —	— —	—	—	— — —	—	—	— —
23rd	—	—	—	— —	— —	—	—	— — —	—	—	— —
24th	—	—	—	— —	— —	—	—	— — —	—	—	— —
25th	—	—	—	— —	— —	—	—	— — —	—	—	— —

OCCUPANT INJURY CLASSIFICATION

Body Region

(1) Head
(2) Face
(3) Neck
(4) Thorax
(5) Abdomen
(6) Spine
(7) Upper Extremity
(8) Lower Extremity
(9) Unspecified

Type of Anatomic Structure

(1) Whole Area
(2) Vessels
(3) Nerves
(4) Organs (includes Muscles/ligaments)
(5) Skeletal (includes joints)
(6) Head - LOC
(9) Skin

Specific Anatomic Structure

Vessels, Nerves, Organs, Bones, Joints are assigned consecutive two digit numbers beginning with 02.

The exceptions to this rule apply to:

Whole Area
(02) Skin - Abrasion
(04) Skin - Contusion
(06) Skin - Laceration
(08) Skin - Avulsion
(10) Amputation
(20) Burn
(30) Crush
(40) Degloving
(50) Injury - NFS
(90) Trauma, other than mechanical

Head - LOC
(02) Length of LOC

(04) Level
(06) of
(08) Consciousness

(10) Concussion

Spine
(02) Cervical
(04) Thoracic
(06) Lumbar

Level of Injury

Specific injuries are assigned consecutive two-digit numbers beginning with 02.

To the extent possible, within the organizational framework of the AIS, 00 is assigned to an injury NFS as to severity or where only one injury is given in the dictionary for that anatomic structure. 99 is assigned to any injury NFS as to lesion or severity.

Abbreviated Injury Scale

(1) Minor Injury
(2) Moderate Injury
(3) Serious Injury
(4) Severe Injury
(5) Critical Injury
(6) Maximum (untreatable)
(7) Injured, unknown severity

Aspect

(1) Right
(2) Left
(3) Bilateral
(4) Central
(5) Anterior
(6) Posterior
(7) Superior
(8) Inferior
(9) Unknown
(0) Whole region

SOURCE OF INJURY DATA

OFFICIAL RECORDS
(1) Autopsy records with or without hospital/medical records
(2) Hospital/medical records other than emergency room (e.g., discharge summary)
(3) Emergency room records only (including associated X-rays or other lab reports)
(4) Private physician, walk-in or emergency clinic

UNOFFICIAL RECORDS
(5) Lay coroner report
(6) E.M.S. personnel
(7) Interviewee
(8) Other source (specify):

(9) Police

INJURY SOURCE CONFIDENCE LEVEL

(1) Certain
(2) Probable
(3) Possible
(9) Unknown

DIRECT/INDIRECT INJURY

(1) Direct contact injury
(2) Indirect contact injury
(3) Noncontact injury
(7) Injured, unknown source

OFFICIAL INJURY DATA — SOFT TISSUE INJURIES

Restrained Passenger

Height: 66 Inches
Weight: 202 Pounds

Indicate the Location, Specific Anatomic Structure, Detail (size, depth, fracture type, head injury clinical signs and neurological deficits), and Source of all injuries indicated by official sources (or from PAR or other unofficial sources if medical records and interviewee data are unavailable.)

AUTOPSY

Restrained?

__ No
__✓__ Yes

Blood Alcohol Level (mg/dl)

BAL = 0

Glasgow Coma Scale Score

GCSS = ____

Units of Blood Given

Units = ____

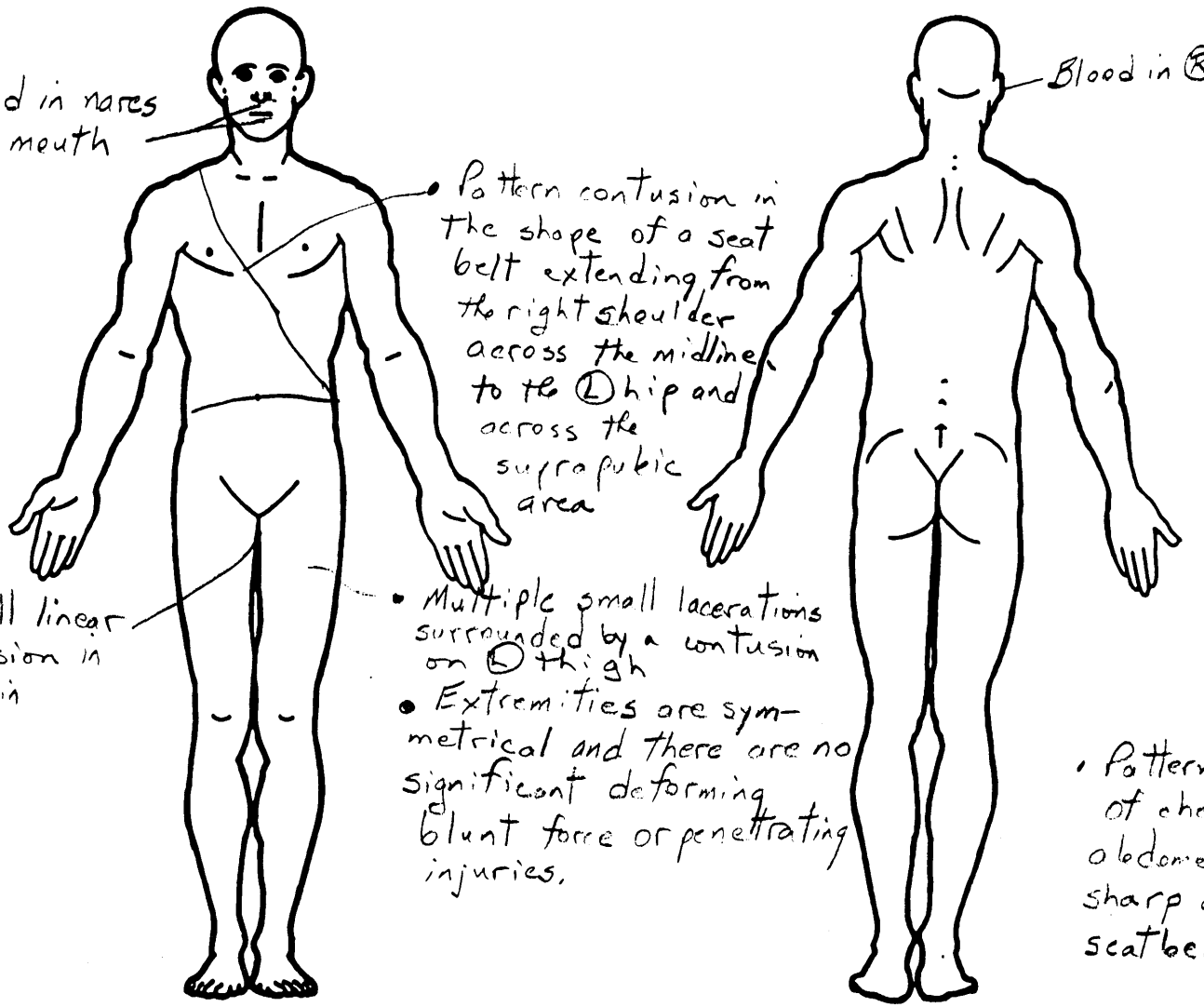
Arterial Blood Gases

pH = ____

PO_2 = ____

PCO_2 ____

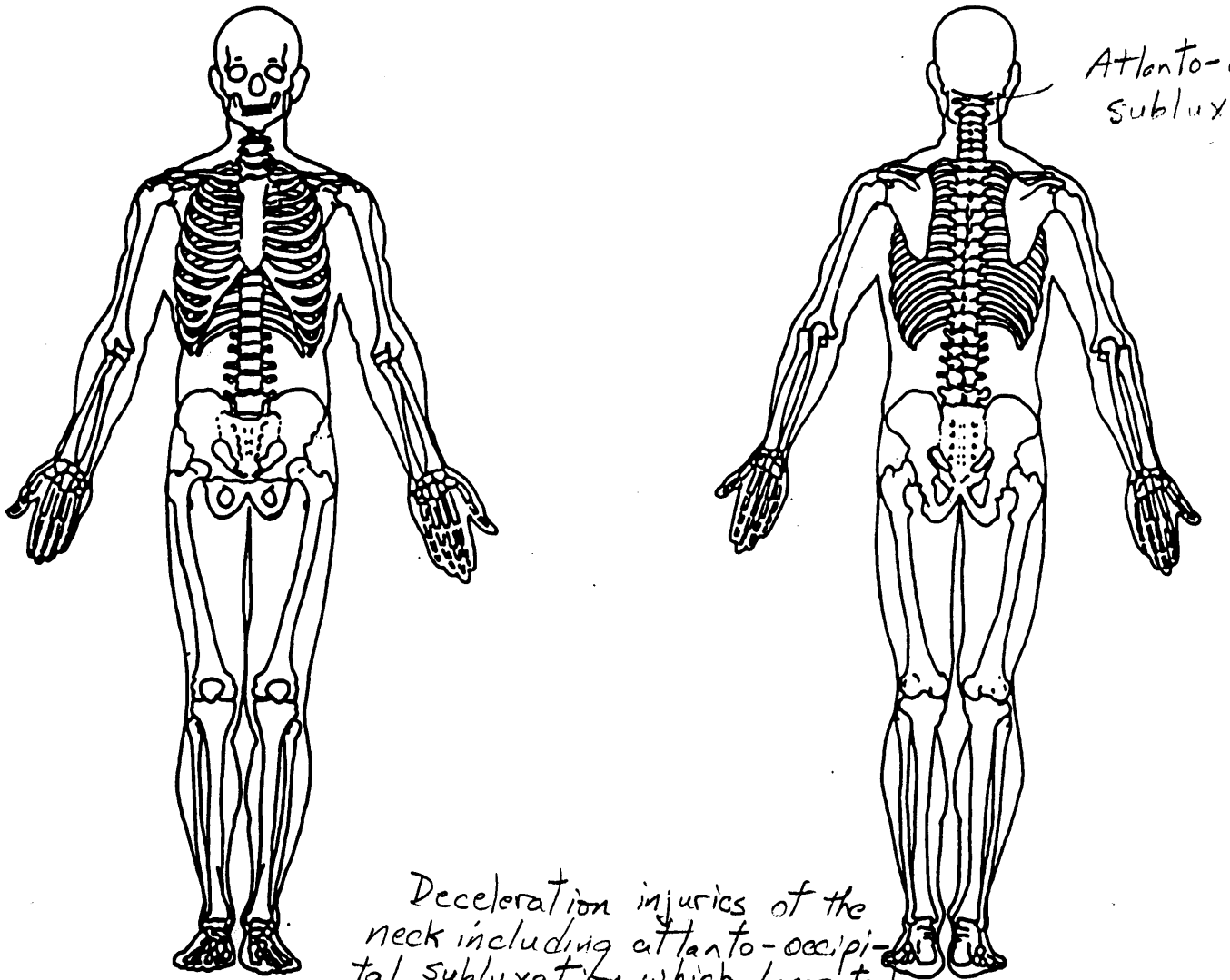
HCO_3 ____



OFFICIAL INJURY DATA — SKELETAL INJURIES

Indicate the Location, Specific Anatomic Structure, Detail (size, depth, fracture type, head injury clinical signs and neurological deficits), and Source of all injuries indicated by official sources (or from PAR or other unofficial sources if medical records and interviewee data are unavailable.)

AUTOPSY



Deceleration injuries of the neck including atlanto-occipital subluxation which lacerated the basilar artery causing the subarachnoid hemorrhage

INJURY SOURCES

FRONT
(001) Windshield
(002) Mirror
(003) Sunvisor
(004) Steering wheel rim
(005) Steering wheel hub/spoke
(006) Steering wheel (combination of codes 004 and 005)
(007) Steering column, transmission selector lever, other attachment
(008) Cellular telephone or CB radio
(009) Add on equipment (e.g., tape deck, air conditioner)
(010) Left instrument panel and below
(011) Center instrument panel and below
(012) Right instrument panel and below
(013) Glove compartment door
(014) Knee bolster
(015) Windshield including one or more of the following: front header, A (A1/A2)-pillar, instrument panel, mirror, or steering assembly (driver side only)
(016) Windshield including one or more of the following: front header, A (A1/A2)-pillar, instrument panel, or mirror (passenger side only)
(017) Windshield reinforced by exterior object (specify)

(019) Other front object (specify):

LEFT SIDE
(051) Left side interior surface, excluding hardware or armrests
(052) Left side hardware or armrest
(053) Left A (A1/A2)-pillar
(054) Left B-pillar
(055) Other left pillar (specify):

(056) Left side window glass
(057) Left side window frame
(058) Left side window sill
(059) Left side window glass including one or more of the following: frame, window sill, A (A1/A2)-pillar, B-pillar, or roof side rail.
(060) Other left side object (specify):

RIGHT SIDE
(101) Right side interior surface, excluding hardware or armrests
(102) Right side hardware or armrest
(103) Right A (A1/A2)-pillar
(104) Right B-pillar
(105) Other right pillar (specify):

(106) Right side window glass
(107) Right side window frame
(108) Right side window sill
(109) Right side window glass including one or more of the following: frame, window sill, A (A1/A2)-pillar, B-pillar, or roof side rail.
(110) Other right side object (specify):

INTERIOR
(151) Seat, back support
(152) Belt restraint webbing/buckle
(153) Belt restraint B-pillar or door frame attachment point
(154) Other restraint system component (specify):

(155) Head restraint system
(160) Other occupants (specify):

(161) Interior loose objects
(162) Child safety seat (specify):

(163) Other interior object (specify):

AIR BAG
(170) Air bag-driver side
(171) Air bag-driver side and eyewear
(172) Air bag-driver side and jewelry
(173) Air bag-driver side and object held
(174) Air bag-driver side and object in mouth
(175) Air bag compartment cover-driver side
(176) Air bag compartment cover-driver side and eyewear
(177) Air bag compartment cover-driver side and jewelry
(178) Air bag compartment cover-driver side and object held
(179) Air bag compartment cover-driver side and object in mouth
(180) Air bag-passenger side
(181) Air bag-passenger side and eyewear
(182) Air bag-passenger side and jewelry
(183) Air bag-passenger side and object held
(184) Air bag-passenger side and object in mouth
(185) Air bag compartment cover-passenger side
(186) Air bag compartment cover-passenger side and eyewear
(187) Air bag compartment cover-passenger side and jewelry
(188) Air bag compartment cover-passenger side and object held
(189) Air bag compartment cover-passenger side and object in mouth
(190) Other air bag (specify)

(195) Other air bag compartment cover (specify)

ROOF
(201) Front header
(202) Rear header
(203) Roof left side rail
(204) Roof right side rail
(205) Roof or convertible top

FLOOR
(251) Floor (including toe pan)
(252) Floor or console mounted transmission lever, including console
(253) Parking brake handle
(254) Foot controls including parking brake

REAR
(301) Backlight (rear window)
(302) Backlight storage rack, door, etc.
(303) Other rear object (specify):

ADAPTIVE (ASSISTIVE) DRIVING EQUIPMENT
(401) Hand controls for braking/acceleration
(402) Steering control devices (attached to OEM steering wheel)
(403) Steering knob attached to steering wheel
(405) Replacement steering wheel (i.e., reduced diameter)
(406) Joy stick steering controls
(407) Wheelchair tie-downs
(408) Modification to seat belts, (specify):
(409) Additional or relocated switches, (specify):

(410) Raised roof
(411) Wall mounted head rest (used behind wheel chair)
(412) Other adaptive device (specify):

EXTERIOR of OCCUPANT'S VEHICLE
(451) Hood
(452) Outside hardware (e.g., outside mirror, antenna)
(453) Other exterior surface or tires (specify):

(454) Unknown exterior objects

EXTERIOR OF OTHER MOTOR VEHICLE
(501) Front bumper
(502) Hood edge
(503) Other front of vehicle (specify):

(504) Hood
(505) Hood ornament
(506) Windshield, roof rail, A-pillar
(507) Side surface
(508) Side mirrors
(509) Other side protrusions (specify):

(510) Rear surface
(511) Undercarriage
(512) Tires and wheels
(513) Other exterior of other motor vehicle (specify):

(514) Unknown exterior of other motor vehicle

OTHER VEHICLE OR OBJECT IN THE ENVIRONMENT
(551) Ground
(598) Other vehicle or object (specify):

(599) Unknown vehicle or object

NONCONTACT INJURY
(601) Fire in vehicle
(602) Flying glass
(603) Other noncontact injury source (specify):
(604) Air bag exhaust gases
(697) Injured, unknown source

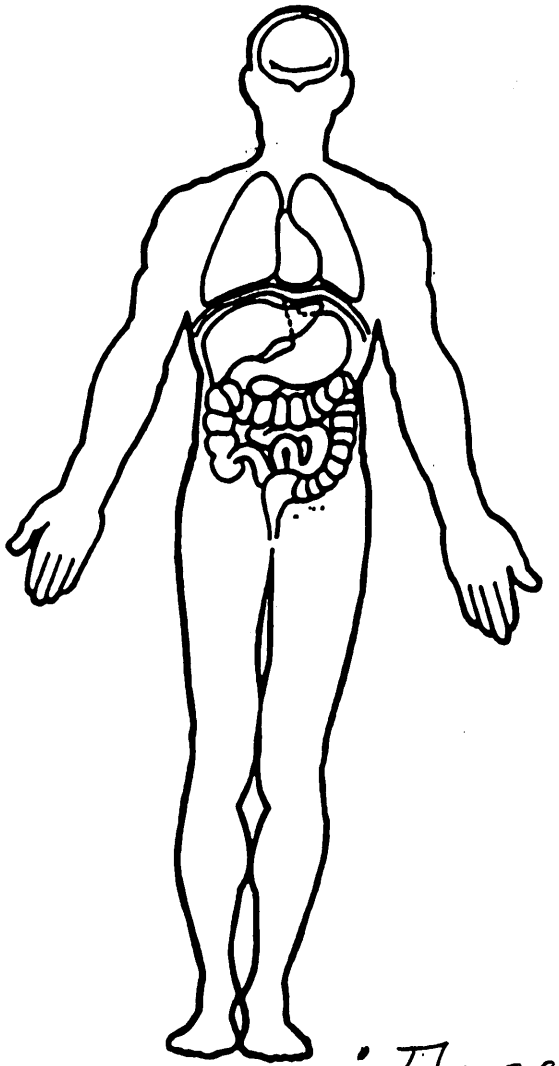
OFFICIAL INJURY DATA —INTERNAL INJURIES

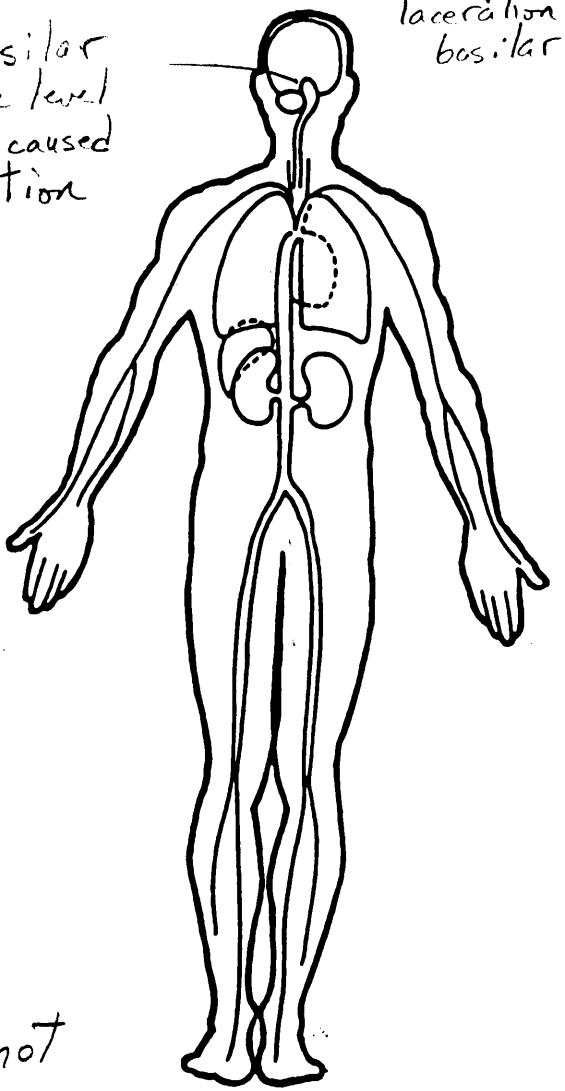
Indicate the Location, Specific Anatomic Structure, Detail (size, depth, fracture type, head injury clinical signs and neurological deficits), and Source of all injuries indicated by official sources (or from PAR or other unofficial sources if medical records and interviewee data are unavailable.)

AUTOPSY

- Lacerated basilar artery at the level of the medulla caused by the subluxation

- Subarachnoid hemorrhage, 50 cc, resulting from laceration of basilar artery





- The spinal cord is not examined

CAUSE OF DEATH

Blunt force injury of head and neck

ICD·9·CM

OTHER DRUGS (GV16)

Specimen Test Type	Drug(s)	Drug Type
✓ Blood and urine tests ✓ Blood test only ___ Urine test only ___ Other test ___ Unspecified Blood volative Screen	Negative	

MEDICAL RECORD ABBREVIATIONS

Symbol	Record Type Description
A	Autopsy—medical information based upon an invasive examination of a body
ME	Medical examiner's record—where the information reported on the patient is based on a non-invasive examination of the body
AR	Admission record/summary—any medical information on this record should be considered as post-ER since it summarizes the patient's admission; these records are common in short hospitalizations and usually only contain: admission DX(s), final DX(s), and a listing of surgical treatments; ICD-9-CM codes are frequently available.
FS	Admission/discharge face sheet—face sheets are essentially the same as admission record/summaries and contain the same types of information as discussed above
DS	Discharge summary—shorter history of a patient's hospitalization highlighting the patient's major injuries; this record is often written from the perspective of its author which in many cases is a consultant
OS	Operative record—summary of a performed surgical operation often providing detailed information about a specific trauma; patients who survive the surgery are normally admitted; thus, this record is normally considered post-ER; however, if this record results from an outpatient surgery, then treat it as emergency-room related
PX	Radiographic records—taken after the patient has been admitted, or while in surgery or intensive care
PN	Patient progress notes—supplemental record containing additional nurses notes taken after the patient's admission
HP	History and physical exam—medical history and the results of the physical exam obtained by the emergency room physician assigned to the patient upon arrival at the emergency room
CN	Consultation record—consultations are in essence additional history and physicial exams performed by doctors whose expertise was requested by the emergency room physician; the consultation may occur during the emergency room visit or after admission
ER	Emergency room report—where the author of this information is undefined
EN	Emergency room nurse—"nurse/complaint of" section on the emergency room report
ED	Emergency room doctor—"objective/physical exam" section plus "diagnosis and treatment" sections (i.e., doctor portion of emergency room report)
NN	Nurse notes—supplemental record containing additional notes taken by the emergency room nurse(s)
EX	Radiographic records—taken during the patients stay in the emergency room
CV	Coroner's verdict—statement of cause of death for legal specific regarding injuries; care must be exercised to ascertain the credentials of the verdict's author.
CR	Coroner's report—medical information based upon a noninvasive examination performed by a person who is not a doctor but who has the title of a coroner
ET	Emergency medical technician—report by a person who qualifies as an emergency medical services technician (EMS or EMT)
O	Other source—medical information based on an other source (e.g., newspaper, DVM—Doctor of Veterinary Medicine)

	0	Rate 0	☐ Regular ☐ Irregular	☐ Weak ☐ Bounding	Rate 0	☐ Clear ☐ Wheezes ☐ Rales	☐ Equal ☐ R > L ☐ L > R	☐ Normal ☐ Labored ☐ Assisted		☐ Perl ☐ Non-React ☐ Dilated	☐ Constricted ☐ Deviated ☐ Unequal	☐ Warm ☐ Dry ☐ Moist ☐ Cool ☐ Clammy ☐ Cold ☐ Pale ☐ Sweaty ☐ Assisted
		Rate	☐ Regular ☐ Irregular	☐ Weak ☐ Bounding	Rate	☐ Clear ☐ Wheezes ☐ Rales	☐ Equal ☐ R > L ☐ L > R	☐ Normal ☐ Labored ☐ Assisted		☐ Perl ☐ Non-React ☐ Dilated	☐ Constricted ☐ Deviated ☐ Unequal	
		Rate	☐ Regular ☐ Irregular	☐ Weak ☐ Bounding	Rate	☐ Clear ☐ Wheezes ☐ Rales	☐ Equal ☐ R > L ☐ L > R	☐ Normal ☐ Labored ☐ Assisted		☐ Perl ☐ Non-React ☐ Dilated	☐ Constricted ☐ Deviated ☐ Unequal	Cap. Refill Sec. ____

O_2 THERAPY

TIME	DOSAGE LPM	ROUTE

GLASGOW COMA SCALE

Eyes Open	Spontaneous	4	4
	To verbal command	3	3
	To pain	2	2
	No response	1	1
Verbal Response	Oriented	5	5
	Confused	4	4
	Inappropriate words	3	3
	Incomprehensible sounds	2	2
	No response	1	1
Motor Response	Obeys commands	6	6
	Localized pain	5	5
	Withdraws	4	4
	Abnormal flexion	3	3
	Abnormal extension	2	2
	No response	1	1
	Total Score	0	0
	Time	2152	

Mark each matrix square which applies to injury to specific areas listed below!

	Pain	Open Soft	Deformity	Closed Soft	Penetrating	Burn	Abrasion
Head							
Face / eye							
Neck							
Chest							
Back							
Abdomen							
Upper arm / shoulder							
Lower arm / elbow							
Hand / wrist							
Upper leg / hip							
Lower leg / knee							
Foot / Ankle							

MEDICAL HISTORY

- ☐ Alcoholism
- ☐ Asthma
- ☐ Behavioral Disorder
- ☐ Cancer
- ☐ COPD
- ☐ CVA
- ☐ Diabetes
- ☐ Heart Disease
- ☐ High Blood Pressure
- ☐ Kidney Disease
- ☐ Seizures
- ☐ ____
- ☐ Unknown
- ☐ None

INFECTION CONTROL

☑ Gloves ☐ Goggles ☐ Gowns ☐ Masks ☐ Vehicle draping ☐

Exposure: ☐ Yes ☑ No

Medical direction protocol ☐ On line ☐ Off line ☑ N/A

Condition changed during Transport ☑ No ☐ Deteriorated ☐ Improved

NARRATIVE

TO THE SCENE:	FROM THE SCENE:	NO TRANSPORT:		SCENE DEATH:	WORK RELATED:	SUSPECTED:
☑ Lights & Siren	☐ Lights & Siren	☐ Cancelled	☐ No Patient	☑ No Transport	☐ Yes	☐ Alcohol
☐ No Lights & Siren	☐ No Lights & Siren	☐ Refusal	☐ Priv. Car	☐ Transport	☑ No	☐ Drugs
			☐ Amb. ____			

SAFETY EQUIPMENT

- ☑ Lap & Shoulder
- ☐ Air Bag
- ☐ Shoulder Strap
- ☐ Lap Belt
- ☐ Secured Child Seat
- ☐ Unsecured Child Seat
- ☐ Helmet
- ☐ None
- ☐ Other ____

MODE OF INJURY:

- ☐ ATV / REC
- ☐ Bicycle
- ☐ Blunt / Assault
- ☐ Drowning
- ☐ Electrical
- ☐ Explosion
- ☐ Fall
- ☐ Gunshot
- ☐ Inhalation
- ☐ Machinery
- ☑ Motorcycle COM
- ☑ Motor Vehicle
- ☐ Pedestrian
- ☐ Poison
- ☐ Stab / Cut
- ☐ Thermal/flame
- ☐ Unknown
- ☐ None
- ☐ Other ____
- ☐ ____

PLACE OF INCIDENT

- ☐ Home
- ☑ Street/Highway
- ☐ Public Bldg
- ☐ Recreational site
- ☐ Residential site
- ☐ Hospital
- ☐ Clinic
- ☐ Industrial Site
- ☐ Extended Care Facility
- ☐ Farm

PATIENT LOCATION:

- ☐ Driver
- ☑ Passenger
- ☑ Front
- ☐ Rear
- ☐ Ambulatory
- ☐ Ejected

CARE PRIOR TO AMBULANCE ARRIVAL

AT SCENE

- ☐ Fire Dept.
- ☐ Police
- ☐ Other Amb.
- ☐ Bystander
- ☐ Family

CARE PROVIDED

- ☐ Immobilization
- ☐ CPR
- ☐ Defib
- ☐ Dressing
- ☐ Extrication
- ☐ IV's
- ☐ Medications
- ☐ Oxygen
- ☐ Airway mgt
- ☐ ____

Incident: Time: ____

Witnessed Arrest ☐ Yes ☐ N

ALS on Scene Time: ____

ALS EMS #

Narrative should include a complete chronological flow of events, including times, patient condition, each procedure rendered and how each affected the patient's condition, and, if patient is monitored, describe ECG and staple ECG strip to original report. Called to 10-50 type unknown @ St R.I Morningstar COM Upon our arrival, was in the front passenger seat laying back & head & shoulders between the two seats Noted that she had @ carotid pulse, @ respirations, pupils dilated non fixed, cole was cyanotic. She was restrained This vehicle was involved in a head on collision & both females @ front pushed heavily into drivers area. Due to mechanism of injury, condition of vehicle that she was entrapped and the extrication equipment was not there yet, plus there was another person in the driver's that was conscious, breathing, and also needs extricated, I declared her ~~dead~~ COM unviable and had to work & him, since we have a chance Upon the arrival of Medics they also declared her unviable. She was covered & a sheet out of respect. She was turned over to the Coroner.

Signature of Paramedic	Chauffeur Name	Technician Name	Technician Name
Person receiving Pt.	Medical Control	IHERN ☐	Cellular ☐ 800 meg ☐ ____

BILLING INFORMATION

Name of Guarantor	Relationship to Patient		Medicare Number	Mileage
Home Address (street, apartment /RR#, city or town, Zip code)	Employer		Medicaid Number	
	Home Telephone	State	Other Insurance Information	

I request that payment of authorized Medicare benefits be made either to me or on my behalf for any services furnished me by the Columbus Regional Hospital. I authorize any holder of medical or oth information about me to release to the Health Care Financing Administration (HCFA) and its agents any information needed to determine these benefits or benefits for related services. I further authori my treatment and transportation by the Columbus Fire Department Ambulance Service.

SCHOOL OF MEDICINE
DEPARTMENT OF PATHOLOGY
FORENSIC DIVISION

AUTOPSY REPORT

Name: Autopsy No:

Age: 49 years Date: 1996

Sex: Female Time: 8:30 A.M.

Performed by: M.D.

Performed for: County Coroner

ANATOMIC FINDINGS

1. Subarachnoid hemorrhage, 50 cc
2. Atlanto-occipital subluxation
3. Lacerated basilar artery
4. Pattern contusion of chest and abdomen in the shape of a seat belt

TOXICOLOGY

Blood volatiles negative

CAUSE OF DEATH

Blunt force injury of head and neck

MANNER OF DEATH

Accident (Passenger)

Ph.D., M.D.
Forensic Pathologist

Resident Pathologist

CIRCUMSTANTIAL SUMMARY

A middle aged white female restrained passenger in a head-on collision. The other driver crossed the center line.

DOCUMENTS AND EVIDENCE EXAMINED

Telephone conversation with of the County Coroner's Office.

X-RAYS

None

IDENTIFICATION

1996 at 8:30 A.M., a complete post mortem examination was performed on the body of who was identified by a County Coroner's toe tag. Persons present for the autopsy included and

CLOTHING AND VALUABLES: Shirt, shorts, bra, panties, and tennis shoes - full of glass. Two diamond earrings, a gold chain with diamond pendant, two gold bracelets, a gold ring, a wedding band and an engagement ring.

EXTERNAL EXAMINATION

The body is that of a moderately obese white female adult . The body length is 66 inches and the body weight is 202 pounds. Scalp hair is brown. Jaundice is not present in the skin or sclerae.

The head is normocephalic. The irides are brown and the sclerae are white. The pupils are round and equal in diameter. There are no contact lenses present and there are no conjunctival petechiae. The nose is unremarkable. There is blood in the

nares and mouth. Lower teeth are present. There is an upper denture. Oral hygiene is good. The two ears are pierced. There is blood in the right ear.

There is no significant increase in the anteroposterior diameter of the chest. The breasts are symmetrical without palpable masses and the nipples appear normal without discharge. The abdomen is not distended. The external genitalia are those of a female adult. The anus is not dilated and has no evidence of injury.

The extremities are symmetrical and there are no significant deforming blunt force or penetrating injuries.

The following scars, nevi and tattoos are present: A 6" midabdominal suprapubic scar.

SIGNS OF DEATH: Rigor mortis is generalized and post mortem lividity is purple and fixed on the posterior surface of the body.

ARTIFACTS: The following artifacts of medical and post mortem care are present: None

The following artifacts of putrefaction are present: None

INJURIES

There is a pattern contusion in the shape of a seat belt extending from the right shoulder across the midline to the left hip and across the suprapubic area. There are multiple small lacerations surrounded by a contusion on the left thigh and a small linear abrasion in the right groin. Deceleration injuries of the neck include an Atlanto-occipital subluxation which lacerated the basilar artery causing the subarachnoid hemorrhage.

INTERNAL EXAMINATION

SEROUS CAVITIES: The body cavities are opened with a standard Y-shaped

incision. The cranial cavity is opened with a coronal incision of the scalp and removal of the calvarium. An odor like alcohol is not apparent in the body cavities. The lungs are well aerated and fill the pleural cavities.

There is no evidence of pneumothorax. There is no blood or effusion in either pleural cavity. The pleural surfaces are smooth and glistening and there are no pleural adhesions. There is no blood or excess fluid in the pericardial sac. There is no evidence of pericarditis. There is no evidence of peritonitis. There is no blood in the peritoneal cavity. There is no ascitic fluid. After removal of the organs from the body, inspection of the serous cavities reveals no evidence of fracture of the ribs, sternum, clavicles, vertebral column or pelvic bones. Contusion hemorrhage is not present in the body walls.

NECK ORGANS: The larynx and trachea are in the midline. The neck dissection is performed following removal of the thoracoabdominal viscera. No significant hemorrhage is present in the skin, fat or sternocleidomastoid muscles of the anterior neck. The strap muscles are free of hemorrhage. The thyroid gland is symmetrical and composed of reddish-brown parenchyma. There is no hemorrhage in the intrinsic muscles of the larynx. The laryngeal cartilages and hyoid bone are not fractured. There is no obstruction of the respiratory tract in the nasopharynx, larynx or trachea. There is gastric content in the larynx. The mucosa of the hypopharynx, larynx and trachea is smooth and glistening without ulceration or tumor. The arytenoideus muscles are free of hemorrhage. Cervical lymph nodes are appropriate for age. No fractures or dislocations of the cervical vertebrae are detected.

THYMUS: The thymus is not identified.

HEART: The 330 gram heart is in usual position with respect to the great vessels and chest cavity. The left ventricle is firm. The left ventricle is not significantly hypertrophied and the cardiac chambers are not dilated. On opening the aorta and pulmonary trunk, there is no evidence of air embolism and there is no evidence of pulmonary thromboembolism. There is no evidence of pericarditis. There are no epicardial petechiae. The circumflex coronary artery arises from the left main coronary. The coronary arteries are examined by multiple cross sections. There is generalized calcified atherosclerotic plaque in the major coronary arteries.

The left main coronary artery is generally less than 25% narrowed by plaque. The left anterior descending coronary artery is generally less than 25% narrowed by plaque. The circumflex coronary artery is generally less than 25% narrowed by plaque. The right coronary artery is generally less than 25% narrowed by plaque.

Thrombosis of a coronary artery is not present. The cardiac valve leaflets are delicate, translucent and membranous. The circumferences of the cardiac valves are within normal limits for age and heart size.

There is no softening or mottling of the myocardium due to recent myocardial infarction or necrosis. There is no myocardial fibrosis. There is no myocardial contusion. There are no defects in the atrial or ventricular septa. The ductus arteriosus is not patent. Autolysis is not significant.

VASCULAR SYSTEM: The aorta and its main branches show mild yellow streak atherosclerosis. There is no evidence of aneurysm, coarctation, dissection or laceration of the aorta. The renal arteries are not stenotic.

LUNGS: Right: 520 grams. Left: 490 grams. There is no atelectasis. The trachea is complete, without malformation, from the larynx to the carina. There is no aspirated gastric material and no aspirated blood in the trachea. The distal bronchi contain scant mucus. The pleural surfaces are smooth and glistening. No petechiae are visible. The lungs and hilar nodes are mildly anthracotic and there is no emphysema. On cut section, there is no aspirated blood apparent in alveoli. Bronchopneumonia is not recognized. There is no focal consolidation and no tumor. There is no significant passive congestion of the lungs. There is no evidence of pulmonary edema. There is no pulmonary contusion. Pulmonary thromboemboli are not present. There is no putrid gas cavitation.

LIVER: The 2160 gram liver has a smooth capsular surface. On cut section, the parenchyma is reddish-brown and has a lobular architecture. The liver is not significantly passively congested. Metastatic tumor is not present. The hepatic duct is patent. The gallbladder is present. There are no gallstones. Autolysis of the liver is not significant.

PANCREAS: The pancreas is appropriate in shape and size with respect to total

body fat stores. On cut surface, it is lobular with interspersed fat without focal calcification, fibrosis, hemorrhage and/or fat necrosis. Autolysis is not significant.

GASTROINTESTINAL SYSTEM: The esophagus is lined with glistening white mucosa. The stomach is coarsely rugated. The stomach contains 250 ml of grey-tan semiliquid food. There is no odor like alcohol in the stomach. There are no erosions or ulcers in the stomach or duodenum. The small bowel and colon are intact without perforation, diverticula or palpable tumors. The vermiform appendix is surgically absent.

SPLEEN: The 120 gram spleen is composed of very soft red and white trabecular pulp. There is no laceration of the splenic capsule. Autolysis is not significant.

ADRENALS: Two adrenals are present with golden brown cortex and white medulla. No cortical nodules are present in either adrenal. Autolysis is not significant.

URINARY TRACT: Right kidney: 150 grams. Left kidney: 150 grams. The two kidneys, ureters and a bladder are present in their usual positions without dilatation. The kidneys are symmetrical in shape and size. The capsules strip from the cortices with ease and the cortical surfaces are smooth. On cut section, the cortex appears of ample thickness and the medulla appears ample. The kidneys are not congested. There are no stones or tumors in the kidneys, pelves, ureters or bladder. The mucosa of the urinary bladder appears glistening. Autolysis of the kidneys is not significant.

REPRODUCTIVE SYSTEM: The uterus, fallopian tubes and ovaries are surgically absent. No tumors are present.

CENTRAL NERVOUS SYSTEM: There is no hemorrhage in the scalp and galea. The dura, removed by stripping from the calvarium and base of the skull, shows no epidural or subdural hemorrhage. The cerebral and cerebellar hemispheres of the 1410 gram brain are symmetrical. The leptomeninges are transparent and can be stripped with ease. There is a 50 cc fresh subarachnoid hemorrhage. There is no

flattening of the gyri and no widening of the sulci. The basilar artery is lacerated at the level of the medulla. The major vessels at the base of the brain have a usual anatomic distribution and there is no significant atherosclerosis. The cranial nerves are symmetrical and intact. There is no evidence of herniation at any of the portals of the brain. On serial coronal sectioning of the brain, there is no internal evidence of contusion, edema, hemorrhage, tumor, atrophy, infection or infarction in the cerebrum, cerebellum and brain stem. There are no fractures of the convexity or base of the skull. There is Atlanto-occipital subluxation. The spinal cord is not examined.

PHOTOGRAPHS: None

SPECIMENS FOR FIREARMS EXAMINATION OR TRACE EVIDENCE: None

SPECIMENS FOR TOXICOLOGY: Blood
Specimens Analyzed: Blood

SPECIMENS FOR CHEMICAL ANALYSIS: None

SPECIMENS FOR CULTURE: None

MICROSCOPIC EXAMINATION: Tissue samples representative of the major organs and injuries have been processed onto glass slides for microscopic examination. These histologic specimens have been examined and there are no additional significant pathologic findings other than those noted on the Anatomic Findings.

UNIVERSITY

SCHOOL OF MEDICINE

FORENSIC TOXICOLOGY REPORT

Demographic Data:

Name:		Case No.:
Submitted by:	IU Forensic Pathology	Date submitted:
Specimens:		
1	Blood, gray top	96-7762

Chain of Custody: Acceptable

Tests ordered: Blood volatile screen

RESULTS

Blood Volatile Screen	Negative

Results reviewed by:

Date: 9/6

DEPARTMENT OF PATHOLOGY
AND LABORATORY MEDICINE

DRUG ANALYSIS LABORATORY
FOR
ATHLETIC DRUG TESTING
AND TOXICOLOGY